

THE
DENTAL TIMES,

A
QUARTERLY JOURNAL

OF
DENTAL SCIENCE.

EDITED AND PUBLISHED BY

DRS. T. L. BUCKINGHAM,
G. T. BARKER,

E. WILDMAN,
W. S. FORBES.

AND
JAMES TRUMAN,

THE FACULTY

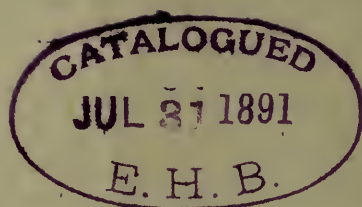
OF THE

Pennsylvania College of Dental Surgery.

VOL. IV.

PHILADELPHIA:

1867.

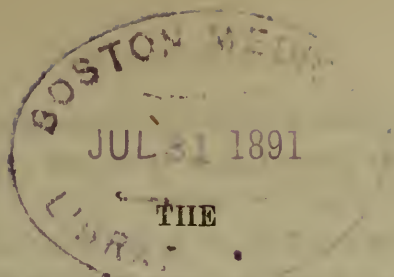


CONTENTS.

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Caoutchouc,..... 1</p> <p>Organization,..... 10</p> <p>Necessity of Testing Kerosene Oil,..... 13</p> <p>Phenol Sodique,..... 15</p> <p>Dental Education,..... 18</p> <p>Obituary, 26</p> <p>Amalgam Fillings,..... 27</p> <p>American Dental Association,... 28</p> <p>Instruction in the Preparation, Administration and Properties of Nitrous Oxide,..... 29</p> <p>Contributions to Museum,..... 29</p> <p>American Dental Convention.... 29</p> <p>Transactions of Connecticut State Dental Association, 29</p> <p>On Protection from Moisture in Dental Operations,..... 49</p> <p>Iron, 51</p> <p>Dental Surgery—Should Females Practice It?..... 54</p> <p>What are Dental Colleges?..... 57</p> <p>Phenol Sodique, an Addendum,.. 60</p> <p>The Sixth Annual Session of the American Dental Association,..... 63</p> <p>Obituary,..... 76</p> <p>Tinct. Iodine Decolorat, (Editorial,) 76</p> <p>Contributions to Museum, (Editorial,)..... 76</p> <p>Snow & Lewis' Automatic Plugger, (Editorial,) 77</p> | <p>Colburn's Caustic Holder, (Editorial,)..... 77</p> <p>Aconite as a Dental Therapeutic, 97</p> <p>Compensation,..... 102</p> <p>Regulating Teeth,..... 105</p> <p>Sensitive Dentine, its Causes and Treatment,..... 109</p> <p>Filling Approximal and Cervical Cavities, 110</p> <p>Quarterly Notes,..... 112</p> <p>Yearly Greeting, (Editorial,).... 116</p> <p>Dental Profession <i>vs.</i> Rubber Patents, (Editorial,)..... 117</p> <p>North Carolina Dental Association, (Editorial,)..... 126</p> <p>Contributions to Museum, (Editorial,)..... 126</p> <p>Nerve Extractors, (Editorial,)... 126</p> <p>On the Articulation and Arrangement of Artificial Teeth,.... 145</p> <p>Amalgam, 149</p> <p>Quarterly Notes,..... 153</p> <p>Regulating Teeth,..... 156</p> <p>Taking Plaster Impressions without an Impression Cup,..... 160</p> <p>Commencement of the Penna. College of Dental Surgery,.. 161</p> <p>The Reason Why,..... 166</p> <p>The American Dental Convention, 167</p> <p>Obituary,..... 168</p> <p>Philadelphia Dental Manufacturing Company,..... 170</p> <p>Correspondence,..... 170</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

CONTRIBUTORS.

| | |
|---------------------------------------|-----------------------------|
| T. L. BUCKINGHAM, D. D. S.,..... | Philadelphia, Pa. |
| E. WILDMAN, D. D. S.,..... | “ “ |
| GEORGE T. BARKER, D. D. S.,..... | “ “ |
| JAMES TRUMAN, D. D. S.,..... | “ “ |
| WM. H. TRUEMAN, D. D. S.,..... | “ “ |
| A. T..... | “ “ |
| EDWIN DARBY, D. D. S.,..... | “ “ |
| S. MARSHALL, | Wilmington, Del. |
| GEORGE E. HAYES,..... | Buffalo, N. Y. |
| M. P. LINTON, M. D.,..... | Newtown, Pa. |
| W. G. A. BONWILL, D. D. S.,..... | Dover, Del. |
| OCCIDENTAL,..... | Brooklyn, N. Y. |
| C. A. MARVIN, D. D. S.,..... | “ “ |
| MISS L. JENNY KELLOGG,..... | Falls of St. Anthony, Minn. |
| WM. C. HORNE, D. D. S.,..... | New York, N. Y. |
| C. E. FRANCIS, D. D. S.,..... | “ “ |
| A. LAWRENCE, D. D. S.,..... | Lowell, Mass. |
| B. WOOD, D. D. S.,..... | Albany, N. Y. |
| J. F. LEAMING, M. D., D. D. S., | Seaville, N. J. |
| L. D. SHEPARD, D. D. S.,..... | Salem, Mass. |
| UNKNOWN. | |



DENTAL TIMES.

VOL. IV.

PHILADELPHIA, JULY, 1866.

No. 1.

CAOUTCHOUC.

ITS HISTORY, PROPERTIES; ITS COMBINATIONS FORMING HARD RUBBER,
AND THE MANNER OF WORKING IT FOR DENTAL PURPOSES.

BY E. WILDMAN, M. D., D. D. S.

(CONTINUED FROM PAGE 12, VOL. III.)

In the last article upon this subject, on page 11, was given a table of the elastic force of steam, at a range of temperature from 212° to 418.46° , expressed in atmospheres and also in pounds, taking the atmospheric pressure as 14.7 pounds to the square inch. As this table is not comprehended by some readers, I will, by way of explanation, state that at 212° F., the elastic force of steam is one atmosphere, or 14.7 pounds to the square inch; this is the pressure upon the internal surface of the boiler, at the same time we have this counterbalanced by the atmospheric pressure on its external surface; the two forces being equal, there is no rending force exerted by the steam at this temperature. At 250.52° , the elastic force of steam is two atmospheres, or 29.4 pounds to the square inch, acting upon the internal surface of the boiler, and one atmosphere, or 14.7 pounds, to the square inch on the external surface; hence the rending or bursting force of steam, at this pressure, is one atmosphere, or 14.7 pounds, to the square inch. And so on through the different temperatures given in the table we must deduct the one atmosphere, or 14.7 pounds pressure, to the square inch on the external surface, from the elastic force of steam to ascertain its rending force upon every square inch of the internal surface of the boiler. From this we find at 320.36° , the ordinary vulcanizing point, we have a rending or bursting force of 73.5 pounds upon every square inch of the boiler exerted by the steam within. Some of the tables of the elastic force of steam give a still greater pressure; but the one quoted indicates a sufficient power of the imprisoned force we daily, and often thoughtlessly deal with, to warn every operator of the necessity of using care in the selection of a vulcanizer, and in its management. This subject is so ably commented upon

by Dr. A. Lawrence, in an article on "Steam Pressure in Vulcanizers," page 97, vol. ii. of this journal, that it is not requisite for me to dilate upon it.

Vulcanizing.—Place the flask, or flasks if more than one case is to be vulcanized at the same time, in the vulcanizer; add water sufficient to cover the top flask at least an inch; dust the top of the packing with finely pulverized soapstone, or whiting, to prevent the cap from adhering thereto when the vulcanizer is opened. A better plan is to keep the soapstone (which I give the preference) in a broad-mouthed vial, having the orifice covered with thin gauze. By dusting the soapstone on in this manner through the gauze it is evenly spread; then place the cap on, and screw down firmly. When the heat has been raised to about 240° , tighten the nuts again, as the packing, especially if new, yields when heated, and without this precaution might be blown out, or cause a leakage of steam.

The next step is to apply the heat. Gas, alcohol and coal oil are used for generating heat, and most vulcanizers are constructed to burn either gas or alcohol, whichever may best suit the convenience of the operator. Coal oil is coming into use; in combustion it produces great heat, and promises to supersede alcohol on the score of economy. Whichever substance—gas, alcohol or coal oil—is used, the flow should be so regulated, and the burner so constructed, as to have complete combustion. Without this precaution, free carbon will be deposited upon the base and sides of the vulcanizer; this deposit is a non-conductor of heat, and will, in a great measure, prevent the desired action of the flame.

After attaining to, or a little above 212° , raise the heat gradually up to 320° F., when that is taken as the vulcanizing point. The time that should be expended in raising the heat will vary according to the thickness of the piece to be vulcanized; for a thin piece, not less than half an hour, and for thick masses the time should be extended to an hour or more. For very heavy pieces I think it a better plan to retain the heat at 280° for a time, and then very gradually bring it up to 320° . In raising the heat, occasionally let off steam to ascertain the true temperature within the boiler, as there appears to be no circulation within when the joints are perfectly tight. My attention was first called to this some years since, when vulcanizing one day, the thermometer indicated the temperature of 320° ; although the flame was not cut down, after some time there was no indication of an increase of heat. I became satisfied there was something wrong; upon examination, found no deposit of carbon upon the base of the vulcanizer, which showed the heat must be accumulating within. Upon pressing down the ring of the safety valve, (in Hays' thermometer, the one used,) thereby establishing a circulation

in the boiler, the mercury immediately ran up to 350° . In this instance, when the steam was quiescent, the thermometer indicated a rending force of 73.5 pounds; when the circulation was established, I found this force was really 117.6 pounds to the square inch. Since then I have uniformly followed the advice above given.

When the vulcanizing point is attained, lower the flame so that the heat shall remain stationary until the end of the operation. To maintain this point requires care and watchfulness on the part of the operator, and after the remarks upon the elastic force of steam, in the preceding article, I trust he will fully appreciate the danger of negligence, especially when the vulcanizing point is fixed as high as 320° .

The time the heat is to be held at 320° F. to vulcanize, varies in different makes of vulcanizers—probably owing to the want of uniformity of the thermometers used—from one hour to an hour and a half; also, different varieties of rubber require different lengths of time to vulcanize. A good plan is to test a new vulcanizer, or when setting a new thermometer with a trial piece, before attempting to vulcanize a set of teeth, taking for time one hour and a quarter, and noting the effect.

Rubber may be vulcanized at a much lower temperature than 320° , but the time must be proportionably extended. A higher temperature may be used, say 330° , and the time shortened; but it is not advisable to carry the heat beyond 320° , and experiments which I shall relate prove we could procure a much better article by lowering the vulcanizing point, and extending the time. When the heat is carried very high, it causes the rubber to darken and become brittle, and the toughness and elasticity, so essential for dental purposes, are lost.

Much has been said by experts in working rubber about the elimination of sulphur gases during vulcanization. The remarks upon this subject, by Austin G. Day, in his Specification, are so interesting I shall quote them in substance:

“In the vulcanizing process, there is eliminated during the whole operation a constant discharge of sulphuretted hydrogen, and other sulphuretted gases, which must have means of escape.

“The escape of these gases from soft elastic rubber is very easy, but from hard rubber or gutta percha, whose pores on the surface portions are very close, it is difficult for them to escape. The consequence is, that the mass is liable to be exploded from the increased pressure of the confined gases within it. Hence, the triple length of time required to vulcanize my composition, (caoutchouc and sulphur alone,) and the greater heat to expel the gases. From the greater degree of compactness of this composition, great difficulty has been experienced in vulcanizing pieces of half an inch in thickness. But by my present improved manage-

ment of the heat in vulcanizing, (raising it very gradually, step by step, up to the highest point,) I am enabled to vulcanize pieces of an inch or more in thickness with great uniformity and perfection.

"Different rubber compounds, containing dissimilar ingredients, will not vulcanize in the same time and at the same temperature, but the time and temperature must be adapted to the constitution of the mass or mixture to develop its best qualities. A mixture containing much earthy matter may be vulcanized in a much shorter time than one constituted of caoutchouc and sulphur alone, and yet be solid, owing to the earthy matter facilitating the escape of the gases evolved in its substance, at the same time such compositions are destitute of elasticity and flexibility. Suppose the vulcanizing point be set from 274° to 300° , the earthy base composition would be worthless and brittle at the end of six hours, and nearly charred at the end of eighteen hours heat; while my composition of caoutchouc and sulphur only would have acquired an ivory hardness, with the spring temper of steel.

"Vulcanization is more difficult in thick than with thin articles, from the fact already stated respecting sulphur gases escaping through the pores of the gum; under these circumstances, if the mass hardens externally faster than internally, the confined gases may explode the mass and spoil the form. Therefore my method is to continue the heat at a long time at 275° . For a piece that is about five-eighths of an inch thick, the time required for vulcanization is thirteen and a half hours.

"It is first retained at..... 275° 6 hours.

"Then raised to and held at..... 280° 3 "

" " " 290° 2 "

" " " 295° 2 "

" " " 300° $\frac{1}{2}$ "

"Experiments with the same grades of time, commencing at the highest, then lowering the heat, also raising it quickly to 295° , and retaining at that point the whole period, produced unsatisfactory results."

These experiments, having been conducted in the large vulcanizers used in the manufactories, extend over a much greater length of time than would be required to accomplish the same end in the small ones employed for dental purposes.

In volume iii, page 589, of the *Dental Cosmos*, we find the results of some experiments by Dr. George E. Hayes, which confirm the position taken by Mr. Day, relative to the escape of sulphur gases during vulcanization. He says, "Having occasion to vulcanize a thicker piece than usual, the oven was heated, in fifteen minutes, up to 320° , and retained there the prescribed time. On removal, the mass was found to have swelled to double its original size, and was porous inside.

“The quick process of heating up to 320° , using the ordinary vulcanizer, with a thick piece, produced the same bad result.”

In a subsequent trial, using his vulcanizing oven, “a piece one-half an inch in diameter come out solid, it having been heated from 210° to 320° in one hour, and the burner extinguished immediately on attaining that degree. The highest perfection seems to be attained when the thermometer marks 320° , without waiting for any continued exposure. It is light colored, compact, solid and tough. A continued exposure darkens the tint without any apparent benefit. The advantages gained by this modified process are threefold; first, a better quality of vulcanite; second, the ability to harden thick pieces; third, the tedious watching of the thermometer to retain the heat at any given point is not required. A very few observations only are required to ensure a good result. The time may be one hour, or three, or even five in bringing up the heat to the given point, and as the increase is so gradual, a few minutes, more or less, in extinguishing the burner ceases to be material.”

Some doubt the evolution of gas from the substance of the rubber during vulcanization being the cause of its sponginess, and attribute this defect to various other causes. To set this matter at rest, and ascertain if sulphuretted hydrogen was given off during the hardening process, a bulb was blown at the end of a glass tube, this was filled with the American Hard Rubber Company's red rubber, the tube was then drawn out very small from immediately above the bulb, and so curved that when the bulb was immersed in the paraffine bath, the small tube could be inserted into a vessel beside it.

The bulb was then placed in a paraffine bath, and the end of the curved tube inserted into a vessel containing a solution of acetate of lead. The heat was then raised to 320° F., and retained at that point for one hour and a quarter.

The mean results of several experiments conducted in this manner was, that during the first thirty or forty minutes after the heat had attained to 320° , bubbles of sulphuretted hydrogen came over at short intervals, and at the expiration of this time it was evolved in a continuous stream, which continued for a few minutes, causing a copious precipitate of black sulphite of lead. After this rapid evolution, until the expiration of the hour and a quarter, the gas was only given off sparingly at intervals. This experiment gave ocular demonstration that sulphuretted hydrogen gas is eliminated during vulcanization, and in large quantities, and conclusively shows that for thick pieces especially, the heat should be slowly raised, in order to give time for a free escape of the gas as it is generated, and also the rubber should be retained under strong pressure to ensure a successful result.

I have long been under the impression that if the vulcanizing point was taken at a lower temperature than generally used, much better results, in color and quality of rubber, would be obtained.

An experiment to ascertain the effect of a continued temperature of 280° F., upon unvulcanized red rubber, developed some facts which are of interest, and I will lay before the reader the results.

The rubber used was the American Hard Rubber Company's red. Into glass tubes, sealed at the lower end, was introduced strips of rubber, the upper end was then corked. These tubes were placed in a bath of paraffine, in an upright position, so that the corks should be some distance above the paraffine. The temperature was then raised to 280° F., and retained steadily at that point, from time to time, as below designated: a tube was taken out, and the effect upon the rubber noted.

At the expiration of two hours.—The color scarcely changed. Texture, soft, non-adhesive, unlike unvulcanized rubber, not very elastic; was not soluble in the solvents of caoutchouc, consequently the change had already taken place.

At the expiration of three hours.—Color slightly changed. Texture, &c., soft, like pure caoutchouc, *very elastic*; similar in properties to soft vulcanized rubber; totally unlike hard rubber, and was not affected by the solvents of caoutchouc after an immersion of sixty hours.

At the expiration of four hours.—The color was slightly darkened. Texture, softness somewhat diminished; was not quite so elastic as at the end of three hours.

At the expiration of five hours.—Color changed slightly. Texture, stiffer; has lost the velvety feel it possessed at the end of three hours; the elasticity diminished.

At the expiration of six hours.—The change noted at the end of five hours augmented.

At the expiration of seven hours.—The change still further augmented; somewhat flexible; the elasticity gone.

At the expiration of eight hours.—The color darkened, but much lighter than obtained by the ordinary quick process of vulcanizing at 320°. Texture, close, compact, free from porosity, which generally occurs when rubber is vulcanized by the quick process and not under pressure, hard, in thin strips very elastic like spring steel, cuts tough like the best brown rubber, free from a "hackly feel," the shaving tough. It was well done, and a much better article, in regard to color, elasticity and toughness, than is produced by the usual method of vulcanizing.

At the expiration of nine hours.—Color becoming darkened slightly. Texture, rather harder, the shaving tough, but not quite so much so as at

the end of eight hours; thin strips more brittle. This may be set down as rather overdone.

At the expiration of ten hours.—The change mentioned above slightly augmented.

At the expiration of eleven hours.—The color more darkened. Texture, more brittle, although but little if any darker or more brittle than it would have been if vulcanized at 320° for one hour and a quarter.

This experiment has been repeated several times with uniform results. It shows us that at 280° F., the American Hard Rubber Company's red rubber will, at the end of three hours, become a *perfectly elastic soft rubber*, and after eight hours' exposure, become vulcanized into a *hard elastic rubber*, possessing properties, such as color, toughness and elasticity, much superior to what is usually obtained.

It is worthy of note that, although the last specimen was at the vulcanizing point for three hours over time, its good properties were not entirely destroyed.

Recently I had occasion to make a practical application of vulcanizing a heavy piece at 280° ; it was a pad for an umbilical hernia. The base plate of the pad was elliptical in shape, the long diameter five, and the short two and three-quarter inches, thickness one-eighth of an inch. Upon this was a central elevation two and a half inches in diameter, and one quarter of an inch thick, and from this central elevation sprang a cone having a diameter at the base of one and three-sixteenths of an inch, and one inch in height, the whole forming one solid piece.

To fill the mould required upwards of two troy ounces of red rubber; the magnitude and thickness of the piece showed the necessity of using care in vulcanizing it. The time and temperature were eight and a half hours at 280° . The resulting color was very good, light, texture compact and free from any signs of porosity, shaving very tough.

The saddle or back piece of this truss was somewhat similar in general outline of form, and equally large in dimensions, but was much thinner; the thickest point being but five-sixteenths of an inch, and requiring but about half the quantity of rubber to fill the mould. This was vulcanized at 320° , the usual time being given; care was taken to raise the heat very gradually up to the vulcanizing point. The rubber was compact, the color and texture greatly inferior to the preceding.

The results of many other experiments might be related to prove the position taken, but enough has been given to allow us to set it down as a rule, to avoid porosity in thick pieces, vulcanize slowly at a moderate heat, and under strong pressure. To produce the best results in color, strength and elasticity, vulcanize at a lower temperature than 320° , giving length of time in proportion to the reduction of temperature.

When the time for vulcanizing has expired, cut off the flame and allow the vulcanizer to cool down to 212° ; this may be hastened by letting off the steam, but it is much better to allow it to cool gradually without doing so, at least down to about 240° . When the temperature falls to 212° , loosen the nuts and take off the cap or head. If a trial piece is used, take it out and examine; if properly done, remove the flask, and permit it to cool gradually. It should not be placed in cold water to hasten the cooling, as this would endanger fracturing the porcelain.

Opening the Flask.—When the flask is *cold*, not before, remove the top piece, then carefully pry the sections apart, commencing by insinuating the point of a knife between the joints at different points until they yield. Then with a pointed knife cut away the plaster near the margin of the flask, until the central part containing the case may be removed; or, where the flasks have much bevel, and have been properly coated before having been filled, by gentle taps with the hammer upon the metal the whole of the plaster will separate in a body. The plaster will readily separate from the rubber if the mould has been coated as directed in the preceding article. Now wash with a stiff brush, and the case is ready for the finishing process.

Cleaning the Flasks and Vulcanizer.—At this step the operator should immediately remove all the plaster from the flasks, and wash and dry them. When first opened they are much more readily cleaned than when the plaster has been permitted to dry and become cemented to the metal by its oxidization; besides economy in time, they are in a good condition when next required for use, and will last much longer than if thrown aside with the plaster adhering. The vulcanizer should also be washed to remove the deposit formed within it.

Finishing.—With coarse files, made especially for this work, remove the surplus rubber; the straight half-round are adapted for the outer surface, and the curved for the lingual surface of the plate. Scrapers then come into play to obliterate the file marks, and also such surplus as is not readily reached with the file: the curved form is very useful on the lingual surface. With gravers cut away the excess from around the teeth, making the joining even and smooth. Coarse burrs for the lathe cut more rapidly than the file or scrapers, but without great care in their use there is danger of cutting through the plate. To avoid the unpleasant accident of cutting through the plate in dressing it down, frequently use the callipers to ascertain its thickness. When reduced to the proper thickness, rub down smooth with fine sand paper. Then prepare the polish by using very finely pulverized pumice stone, made into a paste with water, to obliterate all scratches. It may be applied by using a stick of soft porous wood; cotton wood is well adapted for this purpose,

as it is very porous and tough. Or it may be applied on a cork wheel in the lathe, or better with a felt wheel. For some parts a stiff brush wheel is useful. Dr. Parry recommends cones made of soft vulcanized rubber as a medium of application. I have used the soft rubber cone, and find it very efficient and durable. As they are not yet in the market, those who desire can make them by first attaching a piece of soft vulcanized rubber, of sufficient thickness, to the mandrel of the lathe, then trimming as near as may be to the form of a cone with a sharp knife, keeping the rubber wet while cutting it. After which it may be dressed perfectly true with a piece of coarse gritstone; a piece of old grindstone answers the purpose well. The cone should revolve rapidly, and be kept dry while the stone is being applied.

In some cases, more particularly in partial sets, parts not readily accessible to the wheel or stick, may be reached by having a hank of coarse thread, charged with wet pumice; one end of the hank held in the vise, the other by the left hand, while the piece is rubbed against it. Or instead of using sand paper and pumice after the scraper, very finely pulverized silex may be substituted. Many prefer this mode of procedure; apply it in the same manner as pumice. Scotch stone in slips, kept wet, is also used for the same purpose, and it is very effective; it cuts fast, and leaves a smooth surface.

When all the scratches have been obliterated, proceed to polish. This may be done by using a cotton buffer, or a very soft brush wheel on a lathe, with calcined buck horn or prepared chalk, free from grit, moistened into a thin paste with water. In giving the finishing touches with the polishing material, have it diluted very thin, and the wheel running at a high speed, at the same time giving the work a vibrating motion. To give an exquisite finish, then apply fine rotten stone, free from grit or rouge, mixed with olive oil, on chamois skin or on the hand, after which remove the oily coating with dry rotten stone, rouge or fine zinc white, applied in the same manner. The burnisher may be used with advantage on parts not otherwise accessible.

The palatal surface of the plate cannot be dressed down and polished without destroying the accuracy of its adaptation. Hence the necessity of having the face of the model upon which it reposes, when in the plastic condition, smooth and free from imperfections. To ensure success, every stage in the process of finishing should be complete in itself, and the work should be washed before proceeding to the next.

Every piece of work should receive a perfect polish before insertion into the mouth. I remember reading an article in a dental journal, stating that it was useless to give a fine finish, as the polish was soon destroyed in the mouth. So far as my observation goes, this is a mistaken

idea. The surface of the piece after having been worn a short time, especially if the patient is not careful to frequently cleanse it, will become obscured by a deposition from the saliva, giving it a dead appearance similar to an erosion of the surface; this coating may be removed, while still moist, by rubbing with a soft substance, as a napkin or chamois skin, developing the polished surface, remaining intact.

[TO BE CONTINUED.]

ORGANIZATION.

(Read before the Delaware Dental Association.)

BY S. MARSHALL.

Before we rear the walls of a house we must construct a firm foundation. If our foundation is not good, it will be useless to raise a building in splendid symmetry, and externally adorn it in the most picturesque style of architecture, and furnish it with elegant furniture, and decorate its walls with paintings of golden hues, and fill its niches with the choicest libraries, unless we were sure we have a foundation upon which our superstructure will *securely* rest.

Gentlemen, I feel that our Association yet needs a more sure foundation in the hearts and minds of the dentists of Wilmington and of our peninsula. So I hope you will bear with me while I try to perform the task of riveting more firmly on your minds a clearer perception of the *great* necessity for more attention, more energy, more spirit and force being thrown into this Association. Every one of you can do something to make our meetings interesting and beneficial. What do we live for? Do we live for ourselves alone? Then leave these crowded cities, and betake yourselves to the prairie, the forest or the cave. If your most supreme good is to be obtained by keeping aloof from one another, then let us dissolve this little band of earnest working souls, who have labored for years to establish this Association, retire to our laboratories, lock ourselves in, and resolve that we will know nothing but what we may peradventure obtain at home, or learn as *chance* is propitious, and casts a pearl of wisdom now and then into our supremely selfish laps. This has been the policy of dentists, almost exclusively, until within a few years; and strange to say, even now, in the blazing light of this hour, there are some who would aspire to be dentists who do not "see any advantage in Dental Associations." It is a truism that "there are none so blind as those who will not see!"

Where would have been our Dental Periodicals if it were not for associated effort? Our periodicals come to us laden with the choicest thoughts of our noble workingmen; men who are alive to the never-ceasing benefits of constant association with their fellow-practitioners.

Where would be our Dental Schools, but for the aggregation and concentration of the labors of our best men? Could you go into even the best-appointed laboratory of the best-informed dentists in the country, and gain the advantages of a dental education, such as you can acquire by the advantages of a Dental College and the advantages of the combined information of the association of the various professors who fill the various chairs in all well-regulated schools of dentistry? No, no! Your own common-sense will tell you in thunder tones you cannot; and a Dental Society is the next best means of acquiring knowledge. Two dentists, however limited be their general information of their profession, cannot converse five minutes upon their methods of practice and plans of procedure in their laboratory, but they will benefit each other. How strange it is that the capacity of the human mind, gigantic as it is in many directions, should fail to see that in the wisdom of the whole is constituted the wisdom of the individual; that in the information of *all*, as in the happiness of *all*, is constituted the information of the individual. Do you wish to prepare one for the responsibilities of practice; if you wish to obtain the point of greatest skill, you must learn all you can, and then turn round and tell all you know to the members of the Delaware Dental Association. For just so sure as two candles give more light than one; and certain as it is that yours gives no less after having lighted your neighbor's, just as sure are you to be benefitted by this course. This is a self-evident proposition, and needs no argument to make it clear as sunlight. And the dentist who neglects or refuses to attend the meetings of an association, not only loses that which he might gain from others, but he smothers up the *little* grain under his selfishness which he thinks is so precious, and yet it is not comparable to a grain of mustard seed. Such a one is unfitted to associate with his fellow-practitioners; he is unfitted for the trying responsibilities of his position; he is unfitted for even the position of a good neighbor; he is unworthy of the confidence and esteem of his patients or the public at large. And the name of him who steadily and persistently refuses to connect himself with a Dental Association, should be made known to the public as one who refuses to take the means placed within his power, to enable him to do that justice to his patients, in his operations, which they have a right to expect and demand. And an intelligent community will soon learn to discriminate between the dentist who uses the best means to perfect himself and he who does not.

Have you lost your time that you have spent in attending these meetings? if so, it is your own fault; you have brought no coals to New Castle, and so there is none for your brother to carry away; but if you had brought coals, some one would have brought grain, and a fair exchange

could have been made, which would have been a great blessing to both of you. A word to the wise is sufficient.

Do you know any less about your profession than when you came to the first semi-annual meeting of this Association? Do you feel more discouraged in undertaking a difficult operation? Have you any less to do because some brother practitioner has learned something from you? Have you not also learned something from him? Have either of you less to do on account of what you have learned? Can it be possible that there is less to do because we have all become better prepared to perform our respective operations? If so, I, for one, am glad in my heart that there is less suffering in the world, and consequently, less for me to suffer. Lord, hasten that day when suffering and misery shall be driven from the earth; that day to which hope looks forward with ardent joy; it is yet hidden deeply in the future, and will require the associated efforts of the whole human race to usher in such a glorious, grand and happy consummation.

And when dentists shall so far have done their part in that great work as to prevent all suffering from the teeth, they will be entitled to the praise and thanks of all mankind. Until then, *never, never* relax your hold on the association of efforts, and labor in the great work of preparing and perfecting yourselves for the high and responsible duties of our honorable profession.

Have you obtained any less remuneration for your services than you did previous to the organization of this Association? If so, I *pity* you from my heart, and would advise you to quit, for the pay of a dentist was very poor before. I, for one, feel better prepared to perform my duty to my patients; and the better we are prepared to perform our operations, the more richly will we be rewarded, and the more honorable will be our position in the community. Labor for these ends, and your rewards will be graciously showered upon you. Stand firm by your *sheet-anchor*—the Association—and her sun of wisdom will light your pathway to distinction.

What blind ignorance and stupid folly it is for two dentists, who reside in a town where there is not practice to pay one, to be at sword's points one with another. How much better it would be for them to be social one with another, and agree to take the practice as it came, and not blacken themselves by dabbling in dirt and filth on purpose to throw it on their brother. By this course, they *both* get less to do; but by an honorable course they would both get more to do. Because it is a fact that if you interfere in a quarrel between neighbors, you are sure to get the ill-will of both; and where two dentists quarrel over a bone, (a tooth to pull,) their neighbors, seeing the quarrel, will avoid helping either, and likely go twenty miles to another dentist. Associated effort will soon rub the angles from your minds, and show you your true position, and the bound-

less advantages of Dental Associations. But if you would reap the greatest blessings from this movement you must work; *every one* must *work*! You must not come here and play the drone, and expect to sip the honey which is gathered from the scattering flowers by the workers! If you do, you will fail; you will find in your comb only bee bread where you might have honey. You must, every one, bring a thought; bring your advance thoughts. Exhibit your best plans for accomplishing your manipulations in the laboratory, and your improvements in practice. Then *every one* will be a worker; and my word for it, every one will taste the honey that shall be thus harvested from the flowers of a scientific and true system. For it is an eternally fixed law that labor sweetens the bread of life, and he that will not labor shall not enjoy its fruits. Remember this, and act accordingly, and you will see our Association fixed and firm upon a foundation where it must immovably repose until dentistry shall cease to be known as a profession. And on the corridors of time shall your names be engraved, where they shall be read and honored by all good and true men that pass that way to eternity. And a satisfaction will remain with you that men can never rob you of,—a consciousness that you have done your duty, and done it to the best of your ability, after seeking the best means of crowning yourselves with that ability. For this you will receive the reverence of men, the approval of a clear conscience, the approving smiles of angels, and the priceless reward of well done from your God.

NECESSITY OF TESTING KEROSENE OIL.

BY GEO. E. HAYES.

EDITOR OF DENTAL TIMES—*Dear Sir*:—I thank you for the invitation to write for THE TIMES. I do not think of any subject by which I could benefit the profession more at present than by saying a few words in regard to the mineral oils; the high price of alcohol having turned the attention of dentists in this country, universally, to them as a source of heat for vulcanizing and for other office purposes. It is well known that petroleum, as taken from the earth, is a mixture of a great variety of distinct chemical compounds, varying in volatility from gas, dissolved in the oil itself, up to paraffine, a solid substance, as fixed as wax or any of the vegetable oils. To use these various compounds, very differently constructed burners are required. Some are made in which the most volatile portions are burned, the air being first mixed with the vapor, and then burned as gas. As a general thing, however, the burners for giving light and for heating purposes have been adjusted to an oil from which all of the very volatile compounds have been removed, known in market as kerosene oil.

Now, it is apparent that a burner which would be perfectly safe with this purified oil, up to the highest heat that could be raised by its flame, would be very unsafe with any of the more volatile portions, or with oil which had not been properly purified. If there was as great a demand for these volatile compounds as for the more stable ones, there would be no danger from this source; but, unfortunately, the demand for them is limited, while kerosene finds a ready market. Without rating against the cupidity of refiners, whose interest it manifestly is to leave in as much of these dangerous elements as they dare, it becomes an object of great moment that every person using kerosene should have ready means of testing its quality for themselves.

While thinking upon this subject, I happened to meet with the following extract from the *Boston Journal*, which seems to meet the want precisely. With oil such as I have used with the Aladdin burner, *soldered* into the top of the lamp, with a vent in the feed-stopple, near one side, I have been able to melt tin, and even to soften lead, but never to produce an explosion, or to get the lamp on fire outside, unless oil was spilled, and left on top of it. With this oil I have been experimenting to test the *test* itself. With water drawn from the pipes at about 60° , the lighted taper was instantly extinguished. When raised to 100° , it was also extinguished. Raised to 220° , the oil ignited readily in the cup.

I esteem this oil as perfectly safe in the dentist's laboratory; and with these facts, and the following test for *good* kerosene oil, every dentist may readily learn whether the oil he is using is suitable for his purpose or not:

“A SURE TEST FOR KEROSENE OIL.—The great number of serious accidents resulting from the careless use of kerosene oil, makes its explosiveness a subject of much importance. Three deaths have been caused by it in Lowell within a fortnight. The subject is now before the legislature of Massachusetts, and efforts are being made to enact a stringent law to prevent the adulterations now practiced. The testimony is very important, and reveals a simple and safe plan by which any of our readers may accurately test the danger or safety of oil before using it. Dr. J. W. Huntoon, of Boston, testified that good kerosene oil is not explosive to any dangerous degree whatever, but that it is only when it has an excess of benzine or some other explosive substance, that it becomes dangerous. The following test was given before the committee with perfect success, as showing the difference between oil sufficiently pure to be safe and that which is otherwise: Fill a tumbler three-fourths full of moderately cool water, and pour one-half of a tablespoonful of oil on it; stir it together; then hold a lighted match over it, and if it takes fire from the vapor before the flame comes in contact with the oil, it is dangerous, and ought not to be used, as good oil will not thus ignite, and will not burn readily even when a lighted match is thrown into it; but most of the adulterated oil will burn freely. All refined oil manufacturers corroborated this testimony.”

PHENOL SODIQUE.

BY M. P. LINTON, M. D.

MESSRS. EDITORS :—You ask me for something practical for the columns of your quarterly, *THE DENTAL TIMES*. Well, what shall it be? In looking over my journal of the past twenty-four years, I find much in its pages that might readily be worked up to readable, perhaps instructive matter. But, upon reflection, I feel that I could probably render no greater service to the public in general than in calling the attention of the profession to the comparatively recent French preparation, captioning this article; having been favored by Messrs. Hance & Griffiths, of your city, agents for M. Bobœuf in this country, with a bottle of it, on its first introduction here, with a request that I would give it a trial, and report accordingly. But not being much of an enthusiast in “new remedies,” I thought but little of it at the time. However, I brought it home, and placed it in my medical-case, with a purpose of complying with their request, should any suitable opportunity present itself. That opportunity was not long deferred. I accordingly made the application, and was so pleased with the results that I immediately determined to take it under more favorable consideration.

And it so happened at the time that quite a series of suitable cases presented themselves in rapid succession, all terminating, with scarcely an exception, in equally favorable results. The consequence of all of which has been, that, reasoning from its ascertained properties, the analogy of cases, of tissues, of causes and effects, I soon began to extend its use far beyond the enumerations announced in the programme of the proprietors, until—and especially so for the last two years—scarcely a day has passed that I have not had recourse to it, for some purpose, in some case, relation, connection or another; and that, too, with such marked and very general satisfaction, that I have at length begun to regard it as one of the “professional essentials,” and feel quite free to say that I know of but few articles in the whole *materia medica* that has a wider or more important range of application; and none, perhaps, that has so rarely disappointed my just and reasonable expectations.

And although a preparation much more pertaining to the province of the surgeon and physician than to that of the dentist, yet I presume there are but few intelligent dentists, once becoming fairly acquainted with its many and valuable properties, who would ever after willingly consent to be without it ready at their hand; even, in fact, if it were only for the single purpose of the almost magical relief to their patients of those “after pains” of extraction, so frequently scarcely less tryingly endurable than even the main operation itself, simply by wetting a small pledget of

cotton with it, and passing it into the cavity from whence the tooth was taken. And if so beneficial in the instance of a single tooth, how much more pricelessly invaluable in a case of extraction for a full set, where the alveolar processes are necessarily all laid open, and the gums unavoidably lacerated. Immediately relieving all pain and soreness, arresting the not unfrequent hemorrhage, and continued as a mouth-wash, by its peculiar and specific action causing the rapid absorption of the extravasated blood, and thereby preventing the usually attendant foetor of the breath, so very annoying to patients in such cases; and finally, in speedily closing, healing and hardening the gums, no unimportant consideration, especially with that fairer portion of creation, who seem instinctively to have a very natural horror of a "speaking vacuum" in so obvious a portion of their "title-pages of beauty."

And this is but a single instance of its many phases of usefulness in the dental art. Yet amongst its other various and important applications, I will in this place essay to mention but a few, trusting, that the article once introduced, will be found amply able to fight its own battles, and "carry the victory to the end," readily suggesting, by its obvious properties, to the judgment of the observant and intelligent practitioner, the various and many cases and conditions to which it may very hopefully and beneficially be applied.

And firstly of them, from its pre-eminent hæmostatic properties, its application for the arrest of that peculiar and not unfrequently persistent hemorrhage in some constitutions—or perhaps, more correctly speaking, incidentally cachectic condition of the system at the time,—sometimes following the extraction of a tooth,—in which case I have always preferred it to any of the ferruginous preparations, as it appears to be entirely free from any escharotic or irritating qualities; but on the contrary, especially sedative and antiphlogistic in its action,—never having observed, on any one occasion, swelling or inflammation to have followed its use. And hence, from the same considerations, it being a powerfully antiseptic, I have likewise decidedly preferred it to creasote for the treatment of nerve-cavities, preparatory to fang-filling,—in which class of cases I have as yet to meet the first instance that has been followed by any other than the most satisfactory results. And hence, also, from the same chain of reasoning, it will be found especially applicable to the management of certain cases of toothache, the which will readily present themselves to the judgment of the discriminating practitioner.

And secondly,—and perhaps by no means its least important service as a dental auxiliary,—its especial adaptation to the treatment of those instances so frequently presenting themselves in the operative-chair; I

refer to that class of cases of soft, spongy, swollen or ulcerated gums, bleeding upon the slightest touch of the instrument, invariably attended by a more or less offensive breath, and a tender, inflamed, and not unfrequently exceedingly sensitive, exposed dentine; cases that, to proceed with at the time, would be not only very decidedly unpleasant to the dentist, quite unbearable by the patient, and most absolutely impossible to conduct an operation to a successful and satisfactory termination. In such instances I always prepare a mouth-wash of the phenol, and dismiss my patient for a few days, with directions for its use.

Upon re-presenting themselves, I invariably find a marked and most decidedly improved condition of affairs to have been brought about, and the desired operation is readily proceeded with, with a pleasantness to the dentist, a comfort to the patient, and a final conclusion that would have been absolutely impossible of attainment under any other course of procedure.

In the same category, I might, perhaps, here note, not unfittingly, another class of causes of an unpleasant breath, (always an abomination to the operator,) and by no means a stranger to the dental-chair, arising from an ulcerated condition of the throat or diseased lungs; all of which are as speedily and effectually relieved by the simple inhalation of the vapor from the article in question, evolved from the bottle by the heat of the hand, taken through the ordinary inhaler; or, if you choose, "imbibed" from the spout of that common domestic institution, the old maid's comforter, yeleft "the china tea-pot."

And thirdly,—and for the treatment of yet another item of our professional abhorrence,—that unfortunate, as most repellant of human afflictions, ozena, it absolutely has no compeer in the whole range of the *materia medica*, so far, at least, as our experience has yet tested.

While fourthly, and lastly, if I might jump to a conclusion from the result of treatment of the four cases of diseased antrum that have fallen under my care during the last two years, I might readily conclude it was just the *ne plus ultra* to that end,—as in each one of them the cure was alike painless, prompt and absolute; the first two having now been respectively of eighteen months and two years standing, and no symptom whatever in either case of a return having as yet manifested itself, I think they, at least, may be set down as "radically cured."

But of this enough for the present; and I would only further add, that I would earnestly recommend that every dentist should procure a bottle of the article in question for himself, and test it to his own satisfaction,—the best, perhaps, arbitrament after all.

DENTAL EDUCATION.

Read before the Delaware Association.

BY W. G. A. BONWILL, D. D. S

GENTLEMEN OF THE DELAWARE DENTAL ASSOCIATION :—In addressing you, I have chosen the above subject as my theme, not so much from choice, but from necessity. No one of our number has heretofore touched upon it, and I have felt it really obligatory that something should be said to draw our attention to this all-important question. There are many practical subjects that should be taken up, which many of you might prefer, yet I shall attempt to deal with that of dental education.

For what purpose have we been meeting, and again meet here to-day? Have we profited from former association? What have we done for the good of our profession? How many subjects have been taken up for essays and discussions? What improvements have been presented for consideration? Have we, individually, done all we could to further our science and make our Association respected? Have we, in any way, profited by our twice yearly visits to this room? Who of you, to-day, has appeared without something to mark the passing hour? Have you come to listen to Dr. C. or D., expecting every one else to read an essay but yourself? Gentlemen are not here, certainly, without having made some preparation for our edification. I hope none of you have considered this to be merely a business meeting. No, may we all be agreeably disappointed with each other's conduct. If we have proper regard for ourselves as dentists, and desire to keep up and give character to these meetings, we must every one come with our hands and hearts full of dental science; unless we have done so, or will give pledges of future usefulness, we had better disband. I, for one, do not wish to come to hear myself talk; would prefer it to be *mutual*. But if there are any here who consider that they have been benefitted from anything said or done, then I shall feel we have not associated in vain. I must confess, for one, that I have felt its influence for good. We have met face to face; have learned something of each other; are inclined to be more charitable. We now know who compose the profession upon this peninsula. We can the better gauge ourselves by having once met. Prejudice, once so prevalent, is, I hope, being fast obliterated. The feeble efforts I have made have been the means of awakening my mind to subjects that would, perhaps, have passed without a thought. If you have all been rewarded, as I conceive that I have, from the small amount of work done, you will vote with me to continue these meetings, semi-yearly, so long as we can muster a *trio*. No one has an idea, but he who has made the trial, what labor it is to take up the most trifling subject and transfer it to paper. You may not be so unfortunate as I in composition; I acknowledge it is a task, but the more I indulge and exercise my mind, the

task grows less, and each succeeding subject is the more readily digested and converted into manuscript. We cannot know what our abilities are, or the bounds of our knowledge, unless we endeavor to give vent to it verbally or by essay. If I can get an article *in any kind of shape*, after twice or thrice committing it to paper, I am well satisfied. I do not hesitate because I expect Dr. A. or B. to come out with a better production, or have what I have written criticised and picked to pieces by those present. If we are ignorant, the sooner we are made aware of it the better. We must not fear to open our mouths because of dreaded weakness. How are we to become strong, either in a mental or physical sense? By listlessness and inaction? No; exercise of mind is just as necessary for its development as that of the muscles, if we wish to become physically giants. By it new elements are added, while there is also metamorphosis of the old. Your wits will leave you unless cultivated. Nature has well established the law that there shall be no increase except by the "sweat of the brow." Knowledge will never be attained except at the expense of an effort. May I ask, in what other way are we expending our dental knowledge than by thus associating? Have we all the standard works? Are the best journals to be found upon our table? Any scientific journals? Have we a good selection of medical works? Have we paid due regard to a general library? Gentlemen, these are plain questions, but they are surely of vital import. It is needful that we should ask ourselves, what means have we at hand for the prosecution of our work? Our cases may be well filled with instruments, and the laboratory with everything requisite for the mechanical department, so far as tools are concerned, but what have we to assist in intellectual culture? Admitting there is much written that is not standard, not practical, there is enough to collect that is. If you should see that which you already know, and have been practicing, that need not deter you from further study and reading. It is a comfort to be assured that your experience and practice is correct. Should the author differ with you in some or many respects, do not condemn him, and set your judgment up as paramount. Never doubt until the proper test has been instituted. If we will turn to the literature of our profession, there will be found evidences of advancement. Unless the text books are to be found in our libraries, we must be counted as behind the times, and must for ever remain so. To have kept pace with it is as much as could be expected of some, but to have lurked behind is unpardonable. To practice dentistry, merely mechanically, will for ever keep its sphere of usefulness limited. To be sure, we cannot be superior operators without this very important talent. But there is, anatomically, physiologically and pathologically, so much involved in relation to the teeth with the economy, that mechanism alone will not suffice. It is not enough that fillings should be made solid, nor a denture be finely con-

structed; it is demanded of us to know that the ivory, upon which we are laying ruthless hands, is, to a certain extent, organized; that the sockets, alveoli, from which they project, is a part of the living body; that their relation is such that one cannot be diseased without affecting the other. Nor is this enough; it is well to know the constitution of that tooth, its anatomy, the changes which it is liable to undergo if not properly treated, its low organizations, its little chance for recovery when diseased, compared to the softer tissues; how we are made cognizant of the position, nature and functions of the pulp, and, when found divested of its covering, how are we to distinguish between it and sensitive dentine? When we meet with the various colored caries, what is there to teach us the causes and govern our treatment? If abscess presents itself, are we to extract the tooth, or treat and endeavor to preserve it? If the pulp be exposed, shall we fill and trust to the mechanical forces for relief? Do mechanics alone teach us the pathology of an abscess, or its treatment? Does it assure us of a cyst or sac, which must have its walls collapsed before cure can take place, and prevent further secretion? Upon what principle of the healing art is the fistula leading from that abscess to be treated? Will you tell me that no other knowledge is requisite but the mechanical, to enable us to practice our art to its fullest bounds? No, I hope not. Again, take a simple ulcer, what have we to assure us that nitrate of silver is the thing for its treatment, or chloride of lime, or iodine, or iodine and creasote? Which of these will be most appropriate for the case? It may be that constitutional medication is requisite. Should the solution or application be mild or very strong, or whether any of these should be used? There may be a sequestrum, which, if removed, will alone conclude the cure. It may be a remaining fang. Then how are we to distinguish between it and the alveoli? These simplest cases are not to be treated intelligibly without a knowledge of anatomy, physiology and pathology. How much more difficult those aphthous ulcers, and others more formidable, where constitution is involved? How are we to draw the line of discrimination between the local and constitutional, or when both are playing equally upon the patient? Let us now look for a moment at the *dentition stage*. We are called upon to see a little sufferer; parents desire the gums cut. What guide or landmark is there to direct which teeth are being evolved, or whether they are in need of present attention, and are the cause in this case? Will we still say there is no call for dental education? Why, simple odontalgia cannot be subdued, in all its different forms, without it. What raised the surgery of to-day from its once barbarous condition, except the education of its practitioners, and its correlation with medicine? It was one day as degraded as our own science, and would still be, but for its association with the principles governing the human frame.

Mechanism deals with the inorganic world principally, or in organic where life force has taken its flight. The elements are so remodeled or combined as to be made a thing of action; but when applied to the human organism is certainly no longer mechanism, but involving physics. The more we study the spiritual or organic, the more elevated we become in the scale of social being, for we approach that much nearer to the *divine*. It is this that stamps upon the professional man a character that the world recognizes above the one who merely sees things mechanically. It is nevertheless true, that in our art an intuitive knowledge of mechanism is indispensable. No one can be successful in practice without it; neither can we be intelligent and respected in this department unless intimately associated with medicine. Every year am I more fully convinced that if we, as dentists, wish to be honored and respected, and retain the title of Dr., we must no longer rest satisfied with office tuition, but seek some medical or dental school. The colleges are the only sure means of giving us that status among men of science that we so much covet, or at least should. Gentlemen here may fancy that their five or ten years practice has placed them side by side with all others, and that schools are of no value to the old practitioner. You may say: "They will do for the beginner, but we have acquired all necessary knowledge, and our practice would not be any larger, or we the better therefor." Let me correct this error. If your practice were no larger, your patients would appreciate the effort, and be willing to pay you higher prices for the exercise of mind as well as that of the hand. If you are *capable* of improvement, it would do it. The contact alone with others would rub you up, unless you are rusty throughout. When our eyes are opened to look in upon that body, framed by such infinite power, and finger o'er that face divine, as it lays upon the dissecting table, and are made cognizant of its high organization, even to that ivory, which we slay without a thought of its vitality of the *adjacent structures*, and of the large vessels that supply nourishment, and which, if cut, would prove fatal, we will stand amazed at our ignorance, and that our operations have not been more destructive of tissue and of life itself. Surely we are blest above all other surgeons; so many mistakes committed by the general surgeon, would result disastrously to him and his profession; erysipelas, pyemia, &c., the occasional sequela of even his educated hand, should oftener follow in the wake of uneducated dentists. Pause and think of the many abscesses that open their foul mouths to mark the skill of some ruthless operator; the wholesale destruction of one of our greatest ornaments, the human teeth, at the hand of him who knows little else than artificial substitution. Look at the malformed arches; the work of one who has never recognized dental education. Need I picture more alarmingly special cases to convince those present of the fallacy of practicing our art upon such

exclusive grounds as mechanism? We all feel, as we have added to our store of knowledge, just so much the more *elevated above ourselves* of yesterday; must not others have the same spirits, where they have been working their brain as well as hands? Is this gradation not among other avocations and trades, and are *they* not the more highly esteemed by those who recognize the literature of their adopted calling? Is there one here, who, in the light of the dentistry of 1866, will persist in saying that mechanism alone is the grand pre-requisite to enable us to practice as is becoming the science of to-day? I hope not. As much as I love mechanism—yea, almost worship it—yet I cannot make myself *master of it* without having recourse to scientific journals, and the association of those men who have cultivated this talent. To succeed in what we undertake, and make ourselves honored by the learned as well as by the common people, we must bring to our aid everything bearing in the least upon our profession or trade; and, gentlemen, if we have a desire to place our science where it belongs, we must consider it in the light of a *profession*, and nearly allied to that of medicine.

Among the many plans to be adopted to secure and establish success, we must always bear in mind that there is a standard quality of operations and artificial work, and there *should be* a standard valuation for the same. All should know what those standards are, and even make it their aim to bring their operations up and charge accordingly, and not by having picayune prices, and consequently permitting the skill displayed in the office and laboratory to be of equivalent worth. Skilled labor in every department of life is more highly treasured and valued in ratio to the standard. It is true, that there are *cheap men* and *operatives* in all branches of labor, whether of mind or body, or both, even that of medicine. But we will find, as those members become more perfect from cultivation, the more they themselves will set a higher value on their productions. Is our present system of charges calculated to add anything to the status of dentistry? One has the reputation of being cheapest in the city or State; does that give him character? No; the public go, expecting the best is not to be had at that establishment; *he* values his own handiwork at a *low figure*, and so do *they*. If work equal to the standard is done, then other operators are undervalued and underbid; and, more than that, you debase yourself by not making sufficient clear gain to enable you to purchase those *works* and apparatus that will give you the intellectual culture that above all gives man his prominence above the mere machine. You have also more time given you whereby to improve the mind, by which means you are prepared to associate with the best men of your communities.

Those who do cheap, and I may consequently say inferior work, should not assure their patient it is of the best quality—equal to the standard—and thereby bring disgrace upon our useful profession; for when it is

tested and found wanting, all dentists are set down as *humbugs*, and more harm than good is done. Fillings should not be warranted to last a lifetime; the most perfect often need repair and refilling. I do think the public would be far more honestly served if we would but establish the system of charging high, and making our operations tally. There would be much less capital invested in artificial substitutes. The cost would be greater at first, but almost every tooth would be preserved. They would not need refilling as often, and artificial substitutes would seldom require to be inserted. We can attribute the great sacrifice of one of nature's most important organs to *cheap dentistry*. There is no denying the fact they are not only compelled to have substitutes inserted from failure in filling, but thousands will have splendid teeth extracted sooner than put up with the pain and paying for plugging which they know will not last long. They will tell you that artificial teeth are so much cheaper, and filling will not last. Would it not be better to have the former placed so high that they would prefer to retain their own teeth? Is not the tendency direct, that as you make the inducements greater by low charging, so will the natural teeth be held in lower repute. To have a set that will not ache or annoy, seems to be the ambition of those who have never been taught by their dentists to value their own. It is so much easier to *insert a plate* than to *thoroughly fill*, that cheap operators resort to it without a second thought. And, after all, how do most of the cheap sets fit? Not well, as a general rule. And how are they arranged and articulated with each other? Mostly thrown together without artistic taste. To make them as they should be cannot be done without devoting a certain amount of time thereto; and that time is to the *good* operator worth so much. He who is true to conscience will never sacrifice a tooth that can be made useful! Do let us see to it that we will from this time forth resolve to retain and not slaughter these *too little* appreciated organs. There is nothing we do *more disgraceful* and unbecoming a profession. As I have before stated, and now repeat, the best means of prevention is *education*.

This fact established, the next question is, which should be patronized, medical or dental schools? I have no hesitation in saying that he who expects to devote the whole of his energies and talents to dentistry, should by all means attend the courses required by our dental institutions; they are not mere catch-pennies, but necessities of the times. He who wishes to encroach more on general medicine and surgery, should by all means attend one course in a school specially devoted thereto. The inducements in dental schools are so great that every one should give heed; they have done a vast amount of good; have done more to elevate us, or rather the profession, than all other means that have been adopted. To those who have been in full practice since 1852, the Pennsylvania College (old school) grants the privilege of coming up for graduation without having

attended upon the lectures, if, upon examination by the Faculty, they are found worthy and competent for that degree.

You may think this an unwise step; too broad a door opened for legalizing quackery; a too hasty way of manufacturing D. D. S.'s. But let me differ with you; will it take in all who apply? No! not by hundreds. If so, there would be little necessity for *college tuition*. It is only intended for those few who have not been idle in prosecuting their education while in full practice; who have endeavored to make themselves conversant upon all the leading topics of the hour, and whose increasing duties would not well permit their absence to attend the course as it should be. The time, 1852, was when the school was first inaugurated; they could not go back any further. Besides, thirteen years is no more than an equivalent to one full course; and, with those who have not *profited* by practice, even *this long time* will not carry them through.

This is not intended as an *honorary* degree, but to simply place them, as worthy members of our art, on a footing with all graduates. The progress of dental surgery has been such, that if we would rank among the honored, we must be born in some medical or dental school. It is just and right it should be so. I have long felt the sting of this desideratum; hence my attendance upon a full course at the Jefferson Medical College during the past winter. In the meantime the above offer was tendered, and I hastened to place myself before the Faculty, not knowing what would be the result. My advice is, go and attend the lectures of either the medical or dental school, and try for the "sheepskin," I was going to say, but will amend—honorable degree. I do not care how well posted a practitioner may be, a course will be of no disadvantage.

The question here might arise, is a diploma from the Pennsylvania College worth the parchment upon which it is written? We might suppose that "there was something rotten in Denmark," or why should a new school spring up in the same city? What has given rise to this movement? Could not the old school accommodate more than seventy-five? or did it fail to meet the requirements of the profession? or was it from some personal disturbance among the professors? What reason for another school, for, say one hundred matriculants? the accommodations must have been very poor at the old school, if they could not have taught *three* hundred. If *this* had been the case, I can see the policy for another school in the same city. As it is, I think it a disadvantage to both. It has always been a "*labor of love*;" for we all know it could not have paid a single professor. Would it not have been much better if the one school could have had at least two hundred matriculants, so that there could have been something in the treasury from which to draw for purchasing apparatus and extra material for embellishing the lectures, and making them not only more attractive but more instructive? Is it not

more probable that, instead of the teachers becoming lukewarm in the service, they would have had ten-fold extra inducements for building up the reputation of their school? How would any one of you feel, if, after having succeeded in a good paying practice in a community where only one dentist was required, another was to locate to divide the spoils, on the plea if one is doing well, why cannot *two*? If you were not doing the best work, and he came nearer to what an operator should be, then there would be a just excuse. If it be claimed that this was the origin of the new school, then I say let us have it, and break down the *old*. But, on the other hand, was it because one or more therein could not warp everything to suit themselves, and sooner than not rule would ruin? I hesitate not in saying that the old school should have our sympathies until she proves herself more unworthy than the founders of the new, in their arguments for their charter, gave against her, in favor of themselves. The sole claim was, that the medical schools of Philadelphia were more prosperous, and turned out better classes than when but one school existed. No one can grant that we have a better set of physicians now than when there was but one school; for in this movement the standard and requirements were lowered. With them there was more cause for an extra school; but with us the number of students were not sufficient to make it an object with the teachers to labor with the same assiduity as if the number had been four-fold. As I have before remarked, their great love for the profession, and a strong desire for its elevation, has led them to devote their time, talents and means for the good of the few who have honored them with their presence. I do not take this position because I am a graduate of the old school. No! my sympathies were with the *new*. Far be it from me saying one word against a single professor there. No, I cannot, for they are able men; yet not any more so than those in the mother school.

Could there be found any good reason for this difference, or rather multiplicity of schools, then I would have you attend the opening lectures of each, and decide for yourselves. As it is, I must say sustain the *old*, yet not decrepid institution.

A few words more, and I will not longer hold your attention. Very great deal more might be said in reference to this most vital question; but let these few thoughts suffice, hoping they may turn your minds to reflect thereon, and enable those who are truly in need to go forth from this place resolved to prosecute their profession, not merely *mechanically*, but with the assistance of *medicine* and the collateral sciences; never losing sight of the fact that, if we desire to be called Drs., we should not bring this prefix into disrepute by practicing dentistry merely as a *trade*, but as a profession; and that this only can be done by making use of every means set before us for our education.

OBITUARY.

Drowned in the St. John's River, Florida, on the 4th of April, D. C. AMBLER, M. D., dentist.

It is a sad duty to record the sudden death of a so highly respected and beloved member of the profession. Dr. Ambler practiced for many years in the city of New York, but for the last few years has resided in Florida. His circle of acquaintances was large; and men of education, refinement and worth, were numbered among his most intimate friends. Like all good and useful men, he had a few enemies; but they were chiefly, if not solely, of his own profession,—envious of his reputation and success.

He was a favorite pupil of the venerable Dr. Valentine Mott, and graduated at the College of Physicians and Surgeons of the City of New York. His love of mechanics and chemistry, aided by an inventive and fertile mind, enabled him to make rapid advances in dental surgery, which he chose as a specialty. He was awarded in the year 1833, by the American Institute, a gold medal for artificial mineral or porcelain teeth,—the first awarded, it is thought, for any manufacture. He then gave an impetus to this important and growing branch of dentistry,—the growth of which has been so rapid that it has become a specialty, giving employment daily to hundreds of busy hands. Sickness in his family called him away from this field of usefulness to another in the sunny South, leaving to others the laurels and riches which he truly merited.

I had the pleasure of meeting him in New York last fall, when on a visit from Jacksonville. On that occasion he entertained me with an account of the many difficulties encountered by the early plodders in the field of dental surgery, giving a history of his travels through the South, with a few incidents in the practice in this country of the now famed Dr. Brewster. I little thought then that it would be the last time that I should look upon his pleasant and genial face, the last time that I should listen to his cheerful and instructive conversation. Truly, “in the midst of life we are in death!” He was a sincere Christian, a member and communicant of the Protestant Episcopal Church; and those left behind, mourn for him not as those without hope, for having finished his course in faith, he now rests from his labors.

A. T.

At a meeting of the *Society of Dental Surgeons of the City of New York*, held at their room, No. 24 Cooper Union, on the evening of the 25th of April, 1866, the death of D. C. AMBLER, M. D., dentist, was announced to the meeting, when, on motion, a committee of three was appointed by the chair to draft suitable resolutions of the exemplary character and exalted professional worth of the deceased.

The unexpected close of an eventful life in a career of enterprise and usefulness cannot fail to arrest the attention of the most thoughtless, and shroud an appreciative community in the deepest gloom. Such was signally the case when the startling intelligence of the sudden death of Dr.

D. C. Ambler, by drowning, on the 4th of April, in the St. John's river, Florida, reached us. In Dr. Ambler we recognized an old familiar friend and professional brother, whom we all delighted to honor while living, and now sincerely mourn his death. Dr. Ambler was one of the pioneers in the profession of dentistry; one who labored hard to elevate the standard of professional excellence; and the science and art of dentistry was materially advanced by his scientific knowledge and ingenuity; and to his experimental researches is our profession indebted for those improvements in mineral teeth, the manufacture of which has been carried on so extensively and with such perfection in this country; therefore be it

Resolved, That this Society show its affection for his many virtues and appreciation of the bright example of our departed friend and brother, by placing on record these expressions of our bereavement and sorrow for his departed worth.

Resolved, That our sympathies, true and heartfelt, are hereby tendered to the relatives and friends of the deceased in this sad and inscrutable dispensation of Providence.

Resolved, That Dr. John Gardner Ambler, one of our members, and nephew of deceased, be requested to address the profession at such time and place as may be convenient to himself, in an *obituary* or *eulogy* of the deceased.

Resolved, That these proceedings be published in one or more daily papers of this city, and in the different Dental Journals.

All of which is respectfully submitted.

| | |
|--------------------|--------------|
| T. H. BURRAS, | } Committee. |
| JOHN ALLEN, | |
| CHAUNCEY F. FITCH, | |

AMALGAM FILLINGS.

MR. EDITOR:—Amalgam fillings, which, in ninety cases in one hundred should be removed, or rather should never have been put in, have given me more trouble than any other one thing in the practice of my profession. There are two *general* causes for their use: empirical practice and the poverty or disinclination to compensate on the part of the patient,—the former the more frequent. The latter should never or seldom be allowed to influence a dentist who has his own reputation and the honor of the profession at heart; for I lay it down as a rule, having its exceptions, (though very few,) as all rules are supposed to have, that *an amalgam filling will not preserve a tooth*. In deciduous molars, when the nerve has been destroyed *and removed*, or in old posterior shells, with *clean and healthy fangs*, where it would cost from thirty to fifty dollars to fill with gold, it might be occasionally permissible; but only in such cases should the “*stuffing*” be used.

Cases innumerable have come to me in the past two years,—patients of other dentists,—with incipient or confirmed abscess from teeth filled with amalgam. In some instances the nerve had died after filling; in others, the nerve had *previously* been destroyed; and still in others, only an

attempt or *pretence* had been made at the removal of the pulp. But when the fangs have been *thoroughly* cleansed, this filling will not perfectly preserve the tooth; for an amalgam filling *will* contract and draw from one or another part of the walls of the cavity; and if this should take place at a point inaccessible to the brush, the fluids of the mouth, lying in the crevice, decay, though in some instances *slowly*, yet *surely* will progress.

My chief object in this communication is to inform those who do not know it, of a means whereby to easily remove such fillings; for doubtless all respectable dentists have many such cases as I have described above. I formerly, if the tooth was only sore from periostitis, drilled a small opening into the pulp-cavity, (and oh, what a horrible stench would then come forth,) waited a few days for inflammation to subside, then cut, bored and chiselled out the trash, with hours of sudorific labor. I now take an old rose-head drill or chisel, have my spirit-lamp at hand, heat the instrument *hot*, and cut out the amalgam like old cheese.

Since writing the above, Mr. Editor, a thought occurred to give you my mode of annealing gold for plugging. I find it superior to any mode I have seen. I take a piece of thin mica, three to four inches square, a handle made of two narrow strips of glass, united by liquid silex; on this I place my pellets, (the amount I require for each tooth,) heat them carefully over the spirit-lamp, when they will be found to work *perfectly*. By this mode, time is saved over that of passing each piece through the flame; uniformity of annealing is secured; no gold is burned; alcohol is saved, and the temper of your instruments is not drawn.

Very respectfully, yours,

OCCIDENTAL.

BROOKLYN, June 11th, 1866.

AMERICAN DENTAL ASSOCIATION.

The Sixth Annual Meeting of the American Dental Association will be held in Representatives' Hall, State House, Boston, Massachusetts, commencing Tuesday, July 31st, 1866, at ten o'clock, A. M.

Arrangements have been made with the proprietors of the Revere and Tremont Houses to give extra accommodations to the members to the number of one hundred and seventy-five or two hundred. Those desiring to engage rooms in advance, can do so by addressing the undersigned, stating the style of room—single or double—or rooms, with expected time of arrival. In this way, parties can arrange to be near one another. These hotels are first class, and central.

No special invitations to operate at the clinic have been given. Those willing to operate are requested to come prepared. It is intended to have twenty or more chairs, so that a large number can be operating at the same time.

Some embarrassment has been experienced at previous meetings by delegates coming without credentials. In one case, the Secretary came with a certified list of a dozen or fifteen names of those whom his Society had *elected* as delegates. Less than half of these attended—part coming at

the opening of the session, and others on subsequent days; still others presenting themselves as substitutes. As each man appeared, the Secretary's report of the election had to be hunted up. To simplify and expedite this business,—which at best causes delay in organizing—the Committee on Credentials recommend that each delegate be provided with a certificate to that effect, signed by the President and Secretary of his Society, or one of them.

The profession in Boston and New England will give the Association a hearty welcome. Let us have a full attendance.

L. D. SHEPARD, *Salem, Mass., Corresponding Secretary.*

Editorial.

INSTRUCTIONS IN THE PREPARATION, ADMINISTRATION AND PROPERTIES OF NITROUS OXIDE, by Prof. G. T. Barker. This is the title of a small treatise of sixty-one pages, published by Ruben came and Stockton, in which the writer gives a very clear and concise explanation of the apparatus for, and the preparation of nitrous oxide, the mode of administration and its chemical and physiological properties, and cases in which it is contra-indicated. This work should be in the hands of every one who administers the gas. We can recommend it as reliable in every way.

T. L. B.

WE ARE under many obligations to Dr. L. Buffett, of Cleveland, for a very fine specimen of secondary dentine; also a tooth that had been displaced from its socket, by a kick from a horse some fifteen years previous to its final extraction. It was re-implanted by the individual without the usual precautions considered necessary in such cases, and performed all the duties of mastication during that period equally with its fellows.

Our thanks are also due to Dr. H. S. Noble, of Owego, N. Y., for an inferior cuspidati with two fangs. We are also indebted to Dr. F. A. Ramsey, of Norristown, Pa., for several specimens of teeth presenting abnormal conditions.

J. T.

THE AMERICAN DENTAL CONVENTION will meet this year in the City of New York, on the first Tuesday in August. As this meeting is open to all dentists, we anticipate a large gathering. The discussions are free for all to participate, and from the interchange of opinions much good results.

T. L. B.

SINCE our last number we have received, from the Secretary, the transactions of the Connecticut State Dental Association, for 1864-'65. They are printed very neatly, making 102 pages. As they have been nearly all published in the Dental Journals, the reading portion of the profession has had the benefit of their perusal.

T. L. B.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

THE ELVENTH ANNUAL SESSION, 1866-'67.



TRUSTEES.

| | |
|----------------------------|--------------------------|
| HENRY C. CAREY, PRESIDENT, | GEORGE TRUMAN, M. D., |
| W. L. ATLEE, M. D., | S. DILLINGHAM, D. D. S., |
| DANIEL NEALL, D. D. S., | G. R. MOREHOUSE, M. D., |
| ELLESLIE WALLACE, M. D., | THOMAS WOOD, |
| BENJAMIN MALONE, M. D., | J. R. McCURDY, |
| W. W. FOCHE, D. D. S., | CHARLES HAMILTON, SEC'Y. |

FACULTY.**J. D. WHITE, D. D. S.,***EMERITUS PROFESSOR.***T. L. BUCKINGHAM, D. D. S.,***PROFESSOR OF CHEMISTRY AND METALLURGY.***E. WILDMAN, M. D., D. D. S.,***PROFESSOR OF MECHANICAL DENTISTRY.***G. T. BARKER, D. D. S.,***PROFESSOR OF PRINCIPLES OF DENTAL SURGERY AND THERAPEUTICS***W. S. FORBES, M. D., D. D. S.,***PROFESSOR OF ANATOMY AND PHYSIOLOGY.***JAMES TRUMAN, D. D. S.,***PROFESSOR OF DENTAL PHYSIOLOGY AND OPERATIVE DENTISTRY.*

EDWIN T. DARBY, D. D. S.,*DEMONSTRATOR OF OPERATIVE DENTISTRY***J. M. BARSTOW, D. D. S.,***DEMONSTRATOR OF MECHANICAL DENTISTRY.*

The Lectures to the Regular Course commence on the 1st of November and continue until the 1st of March.

During the last two weeks of October, preliminary Lectures are delivered, one each day.

The Rooms for Operative and Mechanical Dentistry are open from the 1st of October and throughout the session, under the supervision of the Demonstrators.

The Dissecting Room, under the superintendence of the Professor of Anatomy and Physiology, is open during the session.

| | | |
|---------------------------------------------------------------|----------------|--------------|
| Fees for the Course, (Demonstrators' Ticket included,) | - | \$100 |
| Matriculation, (paid but once,) | - - - - | 5 |
| Diploma Fee, | - - - - | 30 |

T. L. BUCKINGHAM, Dean,

C. P. REESS, Janitor.

243 North Ninth St., Philadelphia.

P. S.—Board may be had at from \$3.50 to \$6.00 per week.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

The Eleventh Annual Session, 1866-'67.

The eleventh annual session of the Pennsylvania College of Dental Surgery will commence on the first of November, and continue until the first of March. Preliminary lectures will, however, be delivered each day during the latter half of the month of October. The Dispensary and Laboratory of the College will also be open from that time, where ample opportunities will be afforded for the prosecution of the practical part of the profession under the daily supervision of the Demonstrators, who are gentlemen of known integrity and thorough capability. During October, as well as the entire session, a clinical lecture will be delivered, and operations performed by one of the Professors every Saturday afternoon.

The course is so arranged that fifteen lectures are delivered each week, on the various branches taught in the school. A synopsis of the manner in which each department is treated will be found under the head of the different chairs.

These lectures occupy about the average time of three hours each day. In addition, four hours are daily spent by the student in actual practice. With this object in view, the operating rooms are furnished with twenty chairs, so arranged as to command the best light, and all the appliances necessary for comfort and use. To these chairs the students are assigned in classes, and certain hours are fixed for each member of the class to operate.

Each student is required to provide his own instruments, (except those for extracting,) and to operate with them. He is expected to keep them in perfect order, and for that purpose is provided with a table in which they can be locked up when not in use. As the operations performed at the College are entirely gratuitous, a superabundance of patients invariably present themselves.

In the mechanical department every process known in the profession, which has any value to the mechanical dentist, is fully taught; and receipts of valuable compounds are freely imparted. All the conveniences are at hand in the Laboratory for the preparation of metals, manufacture of teeth, (single and in blocks,) mounting, etc.; and the student is required to go through all the necessary manipulations connected with the insertion of artificial teeth—from taking the impression to the thorough construction of the denture, and proper adjustment of it in the mouth of the patient.

In addition to the facilities afforded by the College for a thorough course of instruction in the theory and practice of Dentistry, the celebrated hospitals and clinics of the city constantly enable the student to witness various important surgical operations which are highly interesting and instructive. The medical and surgical clinics of the Blockley Hospital, in particular, one of the largest eleemosynary establishments in the world, are open to Medical and Dental students, free of charge. The staff of this institution is composed of some of the most eminent physicians and surgeons of Philadelphia.

COURSE OF LECTURES.

CHEMISTRY AND METALLURGY.

The course of instruction from this chair will commence with the consideration of the imponderable substances.

The laws that govern the imponderable bodies will next claim attention, with some notice of symbols or chemical notations. Individual elements, and the compounds resulting from their combinations, will then be considered. Organic chemistry will receive its full share of attention.

The course will be illustrated by diagrams and such experiments as can be performed before the class.

DENTAL PHYSIOLOGY AND OPERATIVE DENTISTRY.

The lectures in this department will embrace the Physiological Anatomy of the teeth, general and microscopical, in addition to a minute and careful description of the various operations performed by the dental practitioner.

The microscope, models and diagrams, will be employed in illustration.

At the Clinic the incumbent of this chair will also demonstrate before the class the various operations described in his course of lectures.

MECHANICAL DENTISTRY.

The instruction from this chair will embrace the entire range of manipulations legitimately connected with the laboratory, arranged in two divisions—Mechanical Dentistry proper, and that to which has been applied the appellation of the Plastic department.

I. *Mechanical dentistry proper* will include everything appertaining to the construction of dental substitutes, passing through the different stages

of preparation, from taking the impression, to the completion and proper adjustment of the case in the mouth, conjointly with features, expression of countenance, enunciation, etc. It will likewise embrace the metallurgic treatment of the various metals employed, the preparation of plate and wire, the alloying of gold, together with the *alloys* used, as well as those designated as solders.

II. This division will comprise all that appropriately belongs to the manufacture of porcelain or mineral teeth—single teeth, block-work, continuous gum-work, vulcanite, etc. The materials, their preparation, compounds and uses, will be specially regarded.

All new inventions, modifications, and improvements, in this branch of the art, will in place receive due attention and investigation.

PRINCIPLES OF DENTAL SURGERY AND THERAPEUTICS.

The lectures delivered from this chair will embrace General Pathology, Dental Pathology, the Pathological Relations of the Teeth to other parts of the System, together with a minute description of all special diseases that have any relation to Dental Surgery, or of interest to the Dentist.

They will also include a careful examination of therapeutic agents and their general application. Their indications in the medical and surgical treatment of diseases of the mouth, both idiopathic and symptomatic, will be fully illustrated, and also the general hygienic rules and principles which come within the province of the practitioner.

ANATOMY AND PHYSIOLOGY.

The instruction in this department will embrace a plain and comprehensive view of the structure and functions of the Human Economy. The valuable anatomical preparations of the incumbent of this chair, (consisting of Papier Mache manikins, models in wood, drawings, wet and dry preparations,) will enable him to fully illustrate his course. With the same object, vivisections on the lower animals will also be employed.

The special relations of this branch to the wants of the dentist will be kept steadily in view, and such descriptions of the natural history, microscopical structure, connections, &c., of the teeth, as their importance demands, will be given.

The great facilities for the study of practical anatomy, to be found in the city of Philadelphia, obviate the necessity of providing a dissecting room in the College. For the usual fee of \$10, the student can have access to one of several well-ordered and well-supplied dissecting-rooms.

QUALIFICATIONS FOR GRADUATION.

The candidate must be twenty-one years of age. He must have studied under a private preceptor at least two years, including his course of instruction at the College. Attendance on two full courses of lectures in this institution will be required, but satisfactory evidence of having attended one full course of lectures in any respectable dental or medical school, will be considered equivalent to the first course of lectures in this College. Also satisfactory evidence of having been in practice five years, inclusive of the term of pupillage, will be considered equivalent to the first course of lectures. The candidate for graduation must prepare a thesis upon some subject connected with the theory or practice of dentistry. He must treat thoroughly some patient requiring all the usual dental operations, and bring such patient before the Professor of Operative Dentistry. He must, also, take up at least one artificial case, and after it is completed, bring his patient before the Professor of Mechanical Dentistry. He must, also, prepare a specimen case to be deposited in the College collection. The operations must be performed, and the work in the artificial cases done, at the College building. He must also undergo an examination by the Faculty, when, if found qualified, he shall be recommended to the Board of Trustees; and, if approved by them, shall receive the degree of Doctor of Dental Surgery.

Candidates for graduation who have not attended lectures.—Dentists who have been in continued practice since 1852 are eligible to be candidates for graduation without attendance on lectures. The candidate for graduation must present satisfactory evidence of his having been in practice for the allotted time, also of his good standing in the profession, he must prepare a thesis upon some subject connected with the theory or practice of dentistry. He must present specimens of his workmanship. He must undergo a satisfactory examination by the Faculty, when, if qualified, he shall be recommended to the Board of Trustees, and if approved by them, shall receive the degree of Doctor of Dental Surgery. Of this class of graduates, the matriculation and diploma fees only are required.

TEXT BOOKS AND WORKS OF REFERENCE.

Wilson's, or Leidy's Sharpey & Quains' Anatomy; Carpenter's Physiology, or Dunglison's Human Physiology; United States Dispensatory; Mitchell's Materia Medica; Fownes' Elements of Chemistry; Regnault's Chemistry; Lehmann's Pysiological Chemistry; C. J. B. Williams' Principles of Medicine; Wood's Practice; Tomes' Dental Physiology and Surgery; Harris' Principles and Practice; Taft's Operative Dentistry; Richardson's Mechanical Dentistry; Paget's Surgical Pathology, or other standard works on the subject.

M A T R I C U L A N T S .

NINTH ANNUAL SSSION, 1865-'6 6.

| | | | |
|----------------------------|---------------|----------------------------|---------------|
| J. P. Adams,..... | New York. | H. W. More,..... | Pennsylvania. |
| Stephen Annas,..... | Cuba. | J. W. Nelson,..... | Tennessee. |
| G. K. Bagby,..... | Virginia. | Henry S. Noble,..... | New York. |
| J. M. Barrett,..... | Pennsylvania. | W. Pellett,..... | Illinois. |
| Edward Bedloe,..... | Pennsylvania. | Casimer del Portillo,..... | Cuba. |
| Henry Berhard,..... | New York. | W. B. Race,..... | New York. |
| E. M. Beesley,..... | New Jersey. | F. A. Ramsay,..... | Pennsylvania. |
| T. H. Bradfield,..... | " | H. C. Register,..... | Maryland. |
| W. G. A. Bonwill,..... | Delaware. | John E. Register,..... | Maryland. |
| F. A. Brewer,..... | Missouri. | Louis Jose Salicrup,..... | Porto Rico. |
| Samuel C. Britton,..... | Maryland. | Peter Schembs,..... | Pennsylvania. |
| Charles Buffett,..... | Ohio. | W. Smedley,..... | " |
| P. M. Christie,..... | Pennsylvania. | H. J. Smith,..... | " |
| R. L. Cochran,..... | Iowa. | C. W. Strang,..... | New York. |
| Wm. H. Crary,..... | New York. | James Tait,..... | Pennsylvania. |
| Frank Darby,..... | " | Henry F. Tefft,..... | Maine. |
| S. C. Dayan,..... | New York. | James S. Thomas,..... | New York. |
| Edw. S. Davenport,..... | New York. | Isador Tolon,..... | Cuba. |
| Timateo P. Dias,..... | Cuba. | John R. Thompson,..... | S. Carolina. |
| Francisco Dominguez,..... | Cuba. | A. P. Tompkins,..... | Pennsylvania. |
| E. C. Flamand,..... | Cuba. | Wm. H. Trueman,..... | " |
| Hamilton Forrest,..... | Maryland. | J. J. Vanderford,..... | Maryland. |
| Simon Frau, D. D. S.,..... | Cuba. | Agustin de Varone,..... | Cuba. |
| Rafael Gonzales,..... | Spain. | John H. Vedder,..... | New York. |
| Asher B. Greasemer,..... | Pennsylvania. | Francis Vega,..... | Porto Rico. |
| Albert Hape,..... | Georgia. | Erastus Walker,..... | New York. |
| L. B. Henderson,..... | N. Carolina. | Ransom Walker,..... | " |
| J. A. Houser,..... | Pennsylvania. | W. H. Walker,..... | Wisconsin. |
| Milton Keim,..... | Michigan | Wm. C. Wardlaw,..... | S. Carolina. |
| A. Lawrance,..... | Mass. | J. B. Wheeler,..... | New York. |
| W. K. Lineaweaver,..... | Pennsylvania. | O. N. Whitney,..... | Illinois. |
| Thomas F. McClure,..... | " | Wm. Williamson,..... | Pennsylvania. |
| Daniel Martin,..... | " | E. Wilson,..... | New York. |
| Mariam Martorell,..... | Porto Rico. | J. H. Winslow,..... | " |
| Francisco Mignotte,..... | Cuba. | | |

GRADUATES, 1865-'66.

| | | |
|---------------------------------|---------------|-----------------------------------|
| John P. Adams,..... | New York, | Salivary Deposits. |
| George K. Bagby,..... | Virgi nia, | Nitrous Oxide. |
| Henry Berhard,..... | New York, | Causes of Caries. |
| Thomas H. Bradfield,..... | New Jersey, | Indammation |
| Francis A. Brewer,..... | Missouri, | Dentistry a Science. |
| Samuel C. Britton,..... | Maryland, | Predisposing causes of Caries. |
| Charles Buffett,..... | Ohio, | Arsenic. |
| Perley M. Christie,..... | Pennsylvania, | Inflammation. |
| William H. Crary,..... | New York, | Rubber versus Metal. |
| Edward S Davenport,..... | " | Iodine. |
| Franciscus Dominguez,..... | Cuba, | Inflammation. |
| Eugene C. Flamand,..... | " | The Art of Filling Teeth. |
| Hamilton Forrest,..... | Maryland, | Decay of the Teeth and Treatment. |
| Albert Hape,..... | Georgia, | Dentistry a Science. |
| John A. Houser,..... | Pennsylvania, | Treatment of Exposed Pulp. |
| Milton Keim,..... | Michigan, | Artificial Dentures. |
| Washington K. Lineaweaver,..... | Pennsylvania, | Indammation. |
| Francisco Mignotte,..... | Cuba, | Extracting Teeth. |
| James W. Nelson,..... | Tennessee, | Indigestion as a cause of Caries |
| Henry S. Noble,..... | New York, | Antrum Highmorianum. |
| Francis A. Ramsay,..... | Pennsylvania, | Sensitive Dentine. |
| Henry C. Register,..... | Maryland, | Digestion. |
| Louis Jose Salicrup,..... | Porto Rico, | Extraction of Teeth. |
| William Smedley,..... | Pennsylvania, | The Fifth Pair of Nerves. |
| Henry J. Smith,..... | " | Sensitive Dentine. |
| James S. Thomas,..... | New York, | Chemistry. |
| William H Trueman,..... | Pennsylvania, | Materials for Filling Teeth. |
| Agustin de Varone,..... | Cuba, | Development of the Teeth. |
| Julien J Vanderford,..... | Maryland, | Dentistry. |
| John H. Vedder,..... | New York, | Treatment of Irregularities. |
| Ransom Walker,..... | " | Diagnosis. |
| William C. Wardlaw,..... | S. Carolina, | Anæsthesia in Dentistry. |
| John B. Wheeler,..... | New York, | The Dental Pulp. |
| A. Lawrance,..... | Mass. | |
| J. M. Barrett,..... | Pennsylvania. | } In practice since 1852. |
| W. G. A Bonwill,..... | Delaware. | |

| | |
|--------------------------------------------------------------------------|------|
| Number of Patients visiting the Clinic, during Session of 1865-'66,..... | 2480 |
| Number for whom operations were performed,..... | 1692 |
| Number of Fillings put in,..... | 1304 |
| Number of Teeth Mounted for Patients,..... | 2212 |

THE DENTAL TIMES.

VOL. IV.

PHILADELPHIA, OCTOBER, 1866.

No. 2.

ON PROTECTION FROM MOISTURE IN DENTAL OPERATIONS.

BY DR. WILLIAM C. HORNE.

The prevalent practice of the present day, which gives the preference to adhesive preparations of gold over non-adhesive foil, occasions a demand, greater than ever, for some means by which the dental operator may undertake the filling of teeth in the most watery mouths without fear of an inundation, however lengthy the operation. Adhesive gold in some of its forms being accepted as the *sine qua non*, it follows that its use should be as extensive as possible. One obstacle to this, which is often quoted, is the impossibility of keeping some cavities dry, and this objection, if valid, is a fatal one, for gold cannot be welded in the presence of moisture. The conclusion generally arrived at under such conditions is, that gold fillings had better be inserted a little wet than not at all. Of the poor results of such operations, only tolerated as the lesser of two evils, we have frequent evidence. Even while to the superficial observer an appearance of safety and solidity is kept up, decay progresses, until the filling breaks down to be replaced by another probably of the same class; that which should have afforded permanent security to the tooth proving only a temporary check to decay. A variety of means are ordinarily resorted to for suppressing or damming the saliva and mucous secretions, as napkins, cotton, bibulous paper, spunk, wedges of wood. These, if carefully applied and watchfully guarded, with the aid of duct compressors, saliva pumps, tongue and cheek holders, generally contribute to a more or less favorable result, but frequently they prove totally inadequate.

There is a means of great simplicity for controlling the worst cases of superabundant flow of saliva, applicable to almost any tooth. It consists simply of a sheet of elastic rubber, known commercially as bandage rubber; in this holes are cut for the passage of the teeth to be protected, which are thus isolated by a water-proof curtain, keeping them perfectly dry at pleasure. The credit of originating this application is due to Dr. S. C. Barnum, an ingenious and skillful dentist of New York, who first used and made it public three years ago. Since then it has commended

itself to the favor of a large number of the leading dentists of this city, who consider it an invaluable improvement.

In its application there are a few points learned by experience, which may be of value to experimenters. The rubber must be newly made, of good quality, that will bear a severe strain without tearing; in thickness about three times that of ordinary writing paper—a piece 5 by 8 inches is large enough for any case, much less will frequently do. The size of the holes should be about one-tenth that of the teeth they are intended for; these may be made by stretching the rubber over a point of wood, which is then cut off with scissors, leaving a clean cut round hole; sometimes a simple perforation may be sufficient. Of course the same piece may be used in a number of cases if care is taken in removing it that it be not torn; also, let the holes be cut near one side instead of the middle of the sheet, as being economical of material and of room in the mouth, leaving the larger part of the curtain externally dependent. One or more teeth on either side of that to be filled should always be included; where the crowns approximate closely, an eighth of an inch left between the apertures in the rubber will allow for the greater space at their necks and for tension; where they stand apart, a greater allowance must be made. The rubber is carried to its place between the teeth to their necks by means of waxed floss silk; its application to back teeth may be facilitated by securing one end of the thread in a file carrier, which may be used in the mouth, while the other end is held by the fingers. The lip of the rubber must be carefully worked under the free edge of the gum toward the root. This is an important point, for if the tooth be hugged ever so tightly, with the lip directed toward the crown, leakage will be inevitable. Should it prove difficult to pass the silk and rubber between the teeth, start them apart with the wedge, which may be done on the instant, but this is seldom necessary. The natural contour of teeth will often retain the rubber in position, but if this prove insufficient, a silk thread around them, interlaced from one to another, close to their necks and tied in a knot, will effectually prevent its slipping off.

If the crown of a molar decreases in size towards its summit, let a waxed silk thread be tightly knotted around it, close to the gum; slide the knot backward to the posterior aspect of the tooth, and bring the ends through the hole prepared in the rubber; by drawing the ends in opposite directions the aperture is distended, the rubber may be carried to its place, and the knotted thread drawn above or below it, (according as the tooth may be inferior or superior;) this will hold long enough to secure another thread around the tooth and its neighbors. In putting the rubber over any teeth begin with those anterior, and work backward, and in tying on the rubber, reverse the order of procedure.

An objection is found in the dark color of the material; it is hoped that some of a lighter hue will soon be obtained from the manufacturers. In the meantime, a piece of paper conveniently placed will prevent the absorption of light, or aid by its reflection.

It is hoped that these general outlines will prove serviceable. The arrangement in detail must be left to the ingenuity of the operator. The method presented has proved so valuable in many hands, that it is earnestly commended to the profession, with the injunction not to be discouraged if not immediately successful in all cases. It will improve with better acquaintance.

NEW YORK, September, 1866.

IRON.
BY T. L. BUCKINGHAM, D. D. S.

In two previous numbers of this journal, we have given a short description of the ores from which iron is obtained, and an outline of the process of reducing these ores. But the iron that is obtained by this first process is not pure enough to be rolled or forged. It is called pig or cast iron and contains from six to eight per cent. of carbon, silicium, phosphorus and sulphur; as these two last substances injure the iron very much, they are got rid of, as much as possible, in roasting the ore and reducing it in the furnace. In order to reduce cast to wrought iron it is necessary to remove from it the carbon and silicium which it contains. To do this the cast iron is melted, and the air is allowed to play over the surface. This oxidizes it very rapidly, and the oxygen coming in contact with heated carbon combines with it and forms first carbonic oxide, and then carbonic acid, which passes off in the form of gas. A portion of the oxide of iron combines with the silicium, and forms a fusible glass which floats on the surface. In order to expose the whole of the iron to the action of the oxygen, it is stirred from time to time. The melted iron is at first very fluid, but after a time it becomes stiff, and finally a doughy mass, when it is rolled into balls on the floor of the furnace and carried from there to the hammer, where it is welded into a solid mass, and from the hammer it is carried to rolls and pressed into bars.

Steel.—There are two processes of manufacturing steel. The first is to partially deprive cast iron of its carbon, and the other to first reduce the cast to wrought iron, and then carbonize it again. For the first process none but the purest cast iron can be used, such as is made in some parts of Germany from the richest ores, and even then the steel is not of the finest quality. The process consists of burning out a certain portion of the carbon, for cast iron contains too much carbon to be used for steel. The furnace used is shallow, and the blast is not blown in at the bottom, but some

distance up. The fuel used is charcoal. A fire is made, and a plate of cast iron is placed on it, standing vertically, with a portion of rich scoria and scraps of iron; these contain a large proportion of oxide of iron. When the cast iron first melts it is very fluid, but the scoria oxidizes it and deprives it of its carbon which renders it doughy. Another plate of cast iron is melted with it, and this is repeated until the workman judges the mass to contain enough of carbon to make steel. During the process, the fuel being above and the blast not striking on the melted metal, it is not oxidized as it would be if exposed to the air: for exposed to the air the metal would be so much oxidized that the whole of the carbon would be burned out, and reducing it to wrought iron. When the operation has been carried far enough, the steel is gathered into small wedge-shaped pieces, which are carried to the hammer and forged into bars about two inches square; these are, while hot, plunged into cold water so as to harden them. They are then struck across an anvil to break off the hardest portion. These are gathered together and melted, run into ingots, and then forged into bars, while the portion that is too soft is added to other cast iron to be more carbonized. To prevent the steel from being oxidized during the process of refining, a portion of clay is thrown on it, which, combining with the oxide, forms a very fusible glass; this floats on the top and prevents further oxidization. Steel made in this way is called *native* or *forged steel*. It is only fit for making large and coarse instruments.

A process of converting cast iron into steel, without the use of fuel, is proposed by Mr. H. Bessemer; it consists of forcing air into the bottom of a melted mass of cast iron and allowing it to bubble up through it. The oxygen of the air combines with carbon in the iron, which gives out heat enough to keep the mass melted. As the iron becomes deprived of its carbon a portion of it is oxidized; this oxide combines with the silicium which the cast iron contains and removes it from the steel. By this process cast iron can be reduced to hard, then soft steel, steely iron, and finally soft iron.

The process by which good steel is made, is called cementation.

Bars of the best iron, from $1\frac{1}{2}$ to 2 inches wide, and from $\frac{1}{4}$ to $\frac{1}{2}$ an inch thick, are placed in boxes in a furnace built for the purpose. These boxes are built of refractory brick, and are $7\frac{1}{2}$ to 15 feet long, 2 feet wide, and as many high. They are charged by first covering the bottom about 2 inches thick with a cement composed of powdered charcoal, with about 1-10th its weight of wood ashes, and a little common salt. Then the bars of iron are arranged edgewise, with about $\frac{1}{2}$ an inch space between them, until the bottom is covered, when the powdered cement is sieved between and over the bars, covering them about $\frac{1}{2}$ an inch thick; another layer of bars and cement is placed on the top of the first, and so on until the box is

filled to within 6 inches of the top; it is then covered with sand and refractory brick, and sealed up perfectly tight. Two of these boxes are usually built in a furnace; they will hold from 10 to 20 tons of iron. Each box has several holes in the end opposite the opening in the walls of the furnace, through which some of the bars can be withdrawn to examine their progress. The temperature of the furnace is about the fusing point of copper. It takes about twenty-four hours to raise it, and it is kept up for seven or eight days.

The carbon at this high temperature combines with the iron, and converts it into steel. The surface of the bar, when taken from the furnace, is covered with blisters, and the steel is then called blistered steel. But the bars are not equally carbonized through; the surface is very hard, while the centre is scarcely carbonized at all, and hence this kind of steel can only be used for common instruments.

In order to render the steel more homogeneous, the bars are cut into short pieces; a number of these are bound together, welded and forged into bars; this forms shear steel, but as it is impossible to thoroughly mix the soft and hard parts together, this steel is not fit for making the finest instruments.

To render steel perfectly homogeneous, the blistered steel is melted in a crucible, and run into ingots, and then forged into bars, drawn into wire, or rolled into sheets. The steel during the melting is kept covered with a fusible glass to prevent it from losing its carbon.

Wootz, or Indian steel, a very superior steel manufactured in India, is supposed to derive its excellent properties from combination with a small quantity of aluminum and silicium. It is made by heating iron to a very high temperature in contact with certain vegetable substances. It has to be remelted to fit it for making the finest instruments.

Efforts have been made to improve the quality of steel by alloying it with other metals, such as silver or platina, but it is doubtful whether steel can be improved by alloying.

Steel is a combination of iron with carbon, and a very little silicium and phosphorus. According to an analysis made by Gay Lussac, it is composed of iron 99.24, carbon .65, silicium .04, and phosphorus .07 in 100; so that the whole of the other elements, combined with iron, is less than 1 per cent. When it contains a larger proportion of carbon, it becomes too hard to work and is very brittle. The appearance of good steel when broken, is of a uniform almost silvery whiteness. The quality is sometimes tested with dilute nitric acid, which in good steel should produce an uniform gray or blackish color; but if some parts are harder than others, the color is not uniform but mottled or striped. The Damascus sword blades were supposed to be made of different kinds of steel, and colored in this way.

Case hardening is done by making the article first out of soft iron, and then covering it up with some carbonaceous substance, and heating it to redness, and keeping it in that state for a length of time—the carbon combines with the iron and converts the surface into steel.

DENTAL SURGERY—SHOULD FEMALES PRACTICE IT?

BY MISS L. JENNY KELLOGG.

Explanation.—In the April number of the DENTAL TIMES, Vol. III., No. 4, appeared a communication by Dr. Geo. T. Barker, with the above title. Exception being taken to the views there enunciated, an article with the same title was received by the publishers in reply. The first three pages of the manuscript were returned to the authoress for a slight alteration, and have not been received in time for publication. As the part we publish refers more particularly to the question of difference and interest, should females practice dental surgery? we have thought it best to make this explanation, and commence Miss Kellogg's essay in rather an abrupt manner, in preference to allowing the whole article to remain over to a subsequent number.—ED.

The doctor says: "the very form and structure of woman unfit her for its duties;" referring to the practice of dentistry. This I most emphatically deny, and think it would puzzle any one to prove it.

He also dwells upon the great danger attendant upon the practice of dentistry during pregnancy and nursing, as well as the neglect of family, which he seems to think must inevitably follow. So far as the neglect of family is concerned, that cannot affect unmarried ladies, and I am personally acquainted with several such, so I know they do exist. With reference to married ladies neglecting their families, I consider that an individual matter, with which outsiders have no right, either legal or moral, to interfere, and presume that the efforts of one who should do so would not be appreciated. But to the physiological effect of practice during pregnancy. That Dr. Barker is in error here, I am fully convinced. We little know of what woman is capable. We do know that among savages, or even the German women of our own United States, pregnancy is not attended with enough inconvenience to hinder work. What proof have we that this training of the muscles is necessarily at the expense of the mental forces? That it is so to a great extent, I admit, but that it is a law of nature we have enough exceptions to disprove; indeed, it is a *libel* upon nature to admit it.

Trying as the practice of dentistry must be acknowledged to be by all who have ever practiced it, a pregnant woman may practice it with less danger to herself and child than she can the duties which in the present

state of society devolve upon one-half, if not nine-tenths, of laboring women in such conditions. There are not so many little, irritating, petty, vexatious things pressing thick upon each other that wear out the patience, derange the secretions, thus surely undermining both mind and body, and stamping their impress indelibly upon the child yet unborn. Then the manual labor itself, taking into consideration the circumstances under which it is performed, is not so wearing. It no doubt is true that mechanics learn to work without thinking, but the same cannot be said of the head of the domestic circle of the present day. Every hour there is something new to be met, requiring extra thought as well as extra exertion. How many, think you, of our laboring domestic women do not labor in a poorly ventilated room, heated with an air-tight stove almost to suffocation? and then they must work from dewy dawn till late at night, often into the small hours, doing wearing, exhausting labor. Methinks you will find them few. No change made because they may be pregnant or nursing children.

We are asked, "who would encourage a female (woman) to perform a trying and difficult operation at such a time?" and yet how many more trying operations would she be called upon to do in discharging the duties of the dentist, is she forced to do by circumstances without encouragement. She must stand for hours over the wash-tub, not only standing in an unphysiological position, performing hard manual labor, but breathing into her lungs the filthy steam of the suds, and more than probably devoting much mental labor, studying how Charlie and Willie and Harry are to be kept in clothes fit to go to school. Mary must be nursed through the measles, Johnny's broken arm must be taken care of. Do you tell me these are pictures of the imagination, or at most exceptions? I tell you nay. I have often had my ears opened to listen to tales that a woman will tell only to a woman: tales that made my blood boil with indignation at the terrible wrongs that society heaps upon woman. Could Dr. Barker know, as I know, the condition of the women of to-day, he would be as anxious as I am for its amelioration. But how is it to be bettered? Certainly, not by putting up bars to hedge in her sphere of usefulness—this he acknowledges. He says: "that the sphere of woman's usefulness should be extended, I for one justly urge; that she is now debarred from entering many occupations for which she is fitted I allow, but to me it seems that dentistry is not one of that class for which she is fitted physically, though she may be mentally, &c." So here is a bolt to be slipped, a bar to be put up, if the doctor can accomplish it to keep her out of the profession. We look around—some one else has put a hedge in another place. A third person has raised an objection at some other point, and so we find ourselves barred and hedged in. Now, to each and

every one of those men, I would like to ask: "how long do you propose to define woman's position for her? How long do you propose to treat like a child an irresponsible person, unfit to take her destiny in her own hands?" It is a relic of barbarism that she is to be governed and controlled; that her own nature is insufficient to lead her to the most fitting duties, but that they must be pointed out to her by the "Lords of Creation," as though they knew her needs and capabilities better than she herself. The very fact that they consider it necessary to do this, shows that they know as little of woman's nature as they do where lies the ashes of Julius Cæsar.

Let woman choose any occupation she will; let her be her own judge. She is competent to decide her own destiny. She may make mistakes, so has man. When she takes this position, she will then be in circumstances where she will say for herself whether she will work through child-bearing or not in most cases; and I wish to say right here that I have known those of the male persuasion who were at times obliged to send away work because they were not in a condition to do it. I have known dentists who were not unfrequently obliged to leave their office on account of sickness. I have known others who spent two or three months of every summer traveling and recruiting, and yet no one thought of questioning their right to their occupation. Were it not fraught with so much evil to my own sex, I confess I should be amused at the idea men have of women. They have not one iota of confidence in her womanly nature. They imagine that she needs bars and bolts, laws and prohibitions made expressly for her, or she would fly off into all sorts of unwomanly things. Never was there a greater mistake. As you may remove all the dykes and barriers built along the seashore to hold the ocean in check, and yet it will not leave its bed. The first rush of the waters when they feel their freedom, may be beyond their legitimate place, yet impelled by the irresistible forces of nature they will surely return to their proper channel. So you may at once cut all the fetters that custom has bound around woman; dash away at one stroke all the barriers built to keep her out of any sphere of action, and woman will be woman still. She will make no protracted efforts to secure and hold a position for which nature has unfitted her. We have individual cases of men choosing occupations for which they are not fitted, so doubtless there would be of woman, but as a sex she would always be true to her own nature, and fill the sphere for which she was designed by an all-wise Creator. And I do most earnestly question the right or *propriety* of any body of men deciding what her sphere shall or shall not be.

WHAT ARE DENTAL COLLEGES?

BY EDWIN T. DARBY, D. D. S.

The question under consideration may at first appear to some as superfluous and absurd, yet it is an inquiry frequently made, and one which has interested each of us at times; hence it is conceded to be worthy of an answer.

It is true, ever since the existence of dental schools, catalogues, circulars and announcements have been lavished upon the profession, with a view of instructing all on this point, and yet, to-day, the majority who have never visited a school of the kind, are as ignorant of the manner in which it is conducted "as was the countryman who asked if they had animals at the theatre."

It is true catalogues and circulars have done much towards enlightening the minds of some; they have given a general idea of the nature and construction of dental schools, and have, perhaps, been as explicit as it was possible to be in an article of the kind; but had they conveyed the real idea, the answer to the question before us would be unnecessary.

It is true many of our most valuable and interesting articles, intended to instruct the profession on this point, fall into the hands of the careless and indifferent, and if read at all, it is in a hasty manner, and even then laid aside, never again to be referred to. But the time is rapidly hastening upon us like the flames of the burning prairie, when it will behoove us to awaken from sleep, and fathom the mysteries around us. The time is not far distant when the great line of division will be drawn; "the sheep on the one hand, the goats on the other." Thus it has been in the medical profession; thus will it be in the dental profession a few years hence when these, our fathers, have fallen asleep.

It is not unnatural that the dental student should manifest some curiosity in regard to the school which he contemplates attending. He has, perhaps, a vague idea of what he is to study, of the character of the lectures he is to hear, of the operations he is to see performed, and those he is to perform himself, yet there are many things as dark as midnight; and though he has had some one to partially lift the veil from his eyes, he still gropes in semi-darkness.

On a visit to some of the Western States during the present season, I had the pleasure of calling on many of the dental practitioners, and not unfrequently were questions similar to the following asked:

Do you think it worth a man's time and money to attend a course or two at a dental school? Are the instructions imparted of such a nature as to prove a benefit to me in after life? Does the student receive ideas which cannot be found in the various works on dentistry? Do they have

patients enough to give each student an opportunity of performing the various operations pertaining to the practice of dentistry?

These and many other questions of a similar nature are frequently being asked, and it is because the questioner does not understand. I am not disposed to call dentists an ignorant class of individuals—"far from it;" such an appellation would be unjust. We all stood in the same path before the way was made known to us.

It would be impossible to give a minute description of a dental school in an article of this kind, but a few remarks in this connection may not appear out of place.

First, let us consider the character of the lectures delivered from the various chairs, commencing with anatomy and physiology. From this chair is taught the nature and chemical composition of bone; the name and position of each bone entering into the formation of the human skeleton; the name, attachment, positions and office of each muscle, ligature, nerve, vein and artery; the phenomena of health and disease; the hygienic rules and principles of life, and the changes incident to dissolution. Associated with this chair is the dissecting room, where ample opportunity is afforded the student to perform such dissections upon the human subject as his wishes may dictate, with models and diagrams to assist him. Before the class are performed the various vivisections on the lower animals. The demonstrations from this chair are such as to render the study of anatomy and physiology not only instructive, but easy and interesting.

Students have been known to enter college entirely ignorant of this study, who could not define a malar from an occipetal bone, or a patella from a dorsal vertebræ, but when the session closed had a good general knowledge from the above chair. But some may say, could not the student gain the same knowledge in the same time from works on this subject? We answer without hesitation, he could not, and for two reasons: first, the mind cannot be enlisted to that degree while reading, and second, studying bones without the bones themselves and the necessary demonstrations, is indeed "*dry business.*"

From the chair of "materia medica, therapeutics and the principles of dental surgery," is taught the nature and application of the medicinal agents. "General pathology, dental pathology, the pathological relations of the teeth to other parts of the system, together with a minute description of all special diseases that have any relation to dental surgery, or interest to the dental practitioner."

The diagrams used to illustrate the teachings from this chair are such as have been taken from abnormal specimens, carefully preserved and deposited in the College Museum. From this chair is freely imparted the

various ingredients, with the manner of compounding our most valuable dentifrices and mouth washes. In short, the knowledge gained by the attendance of one course of lectures delivered from this chair, is infinitely more than years of practice would develope.

The lectures delivered from the chair of "chemistry and metallurgy," with the many valuable and interesting experiments, performed during the session, are of great importance to the dentist. Is it not important that we all have at least a general knowledge of the chemical laws which govern a universe of matter?

From the chair of "dental physiology and operative dentistry," is taught the physiological anatomy of the teeth, both general and microscopical. The diagrams taken from microscopical investigations as well as practical demonstrations before the class, are both interesting and highly instructive. The lectures from this chair embrace the physiological anatomy of the teeth, and adjacent structures of the lower animals as contrasted with those of man; the cause and treatment of dental caries; the various substances used in the process of filling, &c.

In the mechanical department, the student is taught the various operations, from taking the impression to the proper adjustment of denture in the mouth of the patient. The instructions from this chair embrace everything in the mechanical department of any interest to the dentist—the manner of alloying and working the various metals used in the manufacture of plates, solders, clasps and springs. From this chair also the student receives many valuable formulas, which will enable him to prepare many of the compounds used in the laboratory. Aside from the lectures, the student is expected to attend the clinics of the institution, where a superabundance of patients invariably present themselves for the various operations pertaining to dentistry. This room is furnished with a large number of chairs, and the student is assigned his patient and chair, and can at once proceed with any operation necessary to be performed. In this department, advantages are afforded the student which very few would derive in a private office.

Hence the fact is a self-evident one, that in no other way can the student gain the instruction he desires with that advantage which dental schools possess.

The universal testimony of students at the end of a college course, is that they have accomplished more in four months than they otherwise could have done in the same number of years.

Finally, if a dental education is worth anything, it is worth our time, our money, our labors, our talents, our skill; and if literary schools have been instrumental in advancing literature and art, so have dental schools been instrumental in advancing the science of dentistry.

At the day dental schools sprung into existence, with them opened a field which from the beginning had been hedged up by selfishness, prejudice and dishonor. It is only by this interchange of thoughts and ideas that science has been made manifest, or art developed. The light of other minds is as necessary to the play and the development of genius, as the light of other bodies is to the play and radiation of the diamond. A diamond incarcerated in its subcutaneous prison, rough and unpolished, differs not from a common stone, and a Newton or a Shakspeare deprived of kindred minds, and born among savages, a similar nature would they have possessed. As a profession, we have much to encourage us; the avenues are opening, widening and lengthening. We are rapidly gaining the vantage ground, and it only remains for its members to come up to that stand-point of duty which professional men should maintain, and the work will go along, with a power sufficient to uproot all that has impeded it in its progress for past ages, and ere long stand forth one of the honored professions of our land.

PHENOL SODIQUE—AN ADDENDUM.

BY M. P. LINTON, M. D.

My hasty communication upon Phenol Sodique, published in the last DENTAL TIMES, which necessarily was of a brief and general nature, has called forth quite a number of letters of inquiry: more, in fact, under the pressure of business, than I felt I had time to reply to singly. I therefore concluded, with the idea of Franklin, in having grace said over the meat tub in the fall, to serve for the whole year, I would wait until the next issue, and then answer them all at once.

Of those inquiries pertaining to dentistry in its own special department, after what has been said, I should suppose there would needs be but slight "extenuation" further, as a little reflection, and a few applications of the article in question, would, I trust, sufficiently "amplify" all the points in reference. The practitioner always bearing in mind the distinctive properties of the phenol—hæmostatic, disinfectant and antiseptic—all of which it possesses in an eminent degree; and wherever any such agent is indicated in the case, he may always safely resort to it, with an almost certainty of relief, if not indeed a speedy and absolutely successful issue.

So much then for this department of the subject; as here, may be, in a work professedly devoted to matters of the dental art in a stricter sense, perchance 'twere well to rest it. And such would be my choice, but that, in the latter portion of the article above referred to, having, possibly out of place, in a measure, somewhat trenched upon the properties and appliances of phenol in a medical point of view, calling forth quite a number of communications upon the subject, some critical and a

few querulous, though the rest of them evidently seeking in good faith for a higher and a better information.

I therefore, out of self-defence from the former, not less than in a respectful deference to the latter, feel constrained to ask the indulgence of yet a few more words upon the premises, and especially so since the omission of a single word, (but whether from my own inadvertency or through the fault of the printer, I cannot now pretend to say,) as it would appear most of the difficulty and misapprehension has arisen. As in speaking of ozena, I should have said, "for the *local* treatment," presuming that most of my readers, at least the medical portion of them, if they will reflect, are doubtless well aware that that complaint is rarely, if ever, strictly a disease, *per se*. But, on the contrary, merely the outcropping or local development of some other vices, taint or abnormal condition of the system, hereditary or acquired; as scrofulitic, scorbutic, syphilitic, rheumatic or gouty; some hepatic or renal derangement; the sequel of scarlatina or rubeola; some badly developed or repelled cutaneous affection; the too sudden drying up of old ulcers, issues or some other accustomed natural or vicarious drainage of the body, &c. All of which should ever be borne duly in mind by the would-be successful practitioner, and after a close and searching investigation of the case, his constitutional remedies should be applied accordingly. After which, when the system shall have become fairly and fully under their controlling influence, he then, *and not till then*, may resort to his local treatment, with any degree of hope or rational prospect of success. For it must be only but too obvious to every reflecting mind, that forever vain would be our efforts in essaying to destroy the well-established tree by the mere lopping off of a few of its extraneous branches, while the vigorous root, still undisturbed, remained firmly anchored in the life-sustaining soil. It would only but "reborgne anew," and grow the more luxuriant and strong.

And even so of this disease, if happily repelled from its already comparatively unimportant established quarters, there is almost an inevitable certainty that at no distant day it would re-develop itself, and more vigorously from its temporary rest in some yet more enclosed and vitally essential tissue or organ of the body.

But after the course above premised, I still aver, and in all good faith, that so far as my experience has yet gone, I know of no other article in the whole materia medica so prompt and efficient as a local auxiliary in such a case. But here, *en passant*, I would observe that in this, as indeed in almost every other case of practice, at least of a graver or chronic nature, more than one-half of the battle always rests in a proper preliminary direction of our measures in putting the general system under an efficient controlling remedial influence before having recourse to any of

our local or specific adjuncts in the matter. For this, be it remembered, is the solution to the great problem, why the same article of medicines in the hands of one practitioner is almost always a success, while in those of another it is almost as constantly a failure.

As to the method of applying the article in question, I will briefly state what has been my course of procedure in such cases. After pursuing the preliminary course, as aforesaid indicated, I have had the nostrils well syringed out (by means of a Wood's, or other suitable apparatus,) with tepid Castile soap-suds, taking care to place the head of the patient in such a position, and to throw the jet in such direction as best might insure the attainment of the end in view. After which I inject a weak solution of the phenol—say one part to twelve or fifteen of water to commence with, gradually increasing in strength as the patient is found to bear it. And if any ulcerated points present themselves, to touch them well by means of a camel-hair pencil with either the phenol in full strength, or a saturated solution of *argentum nitrats*, taking care always that the patient shall not swallow any of the material.

And this should be repeated at least once or twice a day; after which, that is each operation as above, the parts first drying should then be kept well anointed with the following prepared liniment: equal parts phenol, glycerine and neats-foot, or any other mild, undrying oil, gradually increasing the first article as the case advances; to which may advantageously be added the occasional inhalation of the vapors of phenol, as by that means it may permeate and reach those tissues that could not otherwise be approached by any remedial agent, as you may readily conceive, that all parts of the æreating apparatus is more or less contaminated by the deleterious exudations. And if this course is persistently pursued, I think the practitioner will have the satisfaction of finding that there are but few cases that will not, sooner or later, yield to his skill and perseverance, and success must crown his efforts.

And so much for ozena, while for its kindred, or perhaps identical disease of the antrum, differing only in its local developments, the same views, the same treatment, and the same results may be premised, pursued, and readily anticipated in the end. Of course, understand me, I do not here allude to any of those tumors, "benign" or "malignant," incidental or pertaining to these parts, (unless perhaps in their very incipient stages;) the former of which belonging exclusively to the province of the surgeon, while the latter, like the genuine cancer, apart from personal consideration, and the common sympathies of humanity, can only be of moment to the undertaker—a mere question of time, as at an earlier or a later day, they as certainly run their fatal course as the shadows of the night must close upon the morning's rising sun.

THE SIXTH ANNUAL SESSION OF THE AMERICAN DENTAL ASSOCIATION.

Dear reader, were you present at the annual session in Boston? If you answer affirmatively, we feel assured that you will state that you were amply repaid, and left that classic city laden with new and valuable suggestions; but if you answer negatively, let us say you have missed a session of great interest, a loss you can never regain. It is not our intention to present to the readers of the *TIMES* a regular report of the proceedings, as this can be obtained from the monthly journals, in which you will read what was said, some things that were *not* said, while a great portion of what was of real vital interest is not reported at all. This must ever be the case with published proceedings, let them be ever so well written or carefully reported, for the reason that questions are asked and answered, and speakers make *points* in their remarks which are unnoticed by readers; but to these proceedings we recommend all, as they give the best obtainable information of what was done and said on that occasion.

We shall briefly direct attention to some of the most important subjects there considered, with such thoughts and suggestions as present themselves.

FIRST DAY—MORNING SESSION.

The meeting was called to order on Tuesday, the 31st of July, 1866, in the Hall of Representatives, of the State of Massachusetts, (the Committee of Arrangements having obtained the use of the State House from the Legislature,) Dr. C. W. Spalding, of St. Louis, in the chair.

Prayer having been offered by Dr. A. A. Cook, Dr. N. C. Keep, of Boston, delivered the following address of welcome:

*Mr. President, and Gentlemen of the American Dental Association:—*The very pleasant duty of presenting the welcome of the Massachusetts Dental Society, and the dentists of New England, to you has been assigned to me. I recognize in each of you, gentlemen, a delegate of some society, bringing with you the fruits of the research and observations of the society which you represent, and commissioned to carry back from this meeting the results which may be eliminated from examinations of specimens, clinics, and discussions by this Association. Gentlemen, the meeting of such numbers of our profession to consult for the advancement of rational and scientific principles, and thereby to promote the usefulness and respectability of our specialty is of recent date. These meetings, if judiciously conducted, must exert sanitary and scientific influences of the highest moment. To accomplish this most desirable object, let each resolve to seek earnestly for the truth.

I welcome you to the Commonwealth of Massachusetts; her jewels are her children. For half a century at least the accumulation of wealth, so often the object of effort and desire by the world at large, has been raised above the mere love of accumulation by an enlarged benevolence. As illustrations of what I mean, I might cite the examples of McLean, Law-

rence, Appleton, and the great prince of givers, Hon. George Peabody, whose benefactions to society are like copious showers, when the humblest plant and the ornamental shrub are stimulated to new life, usefulness and beauty. Names like these, sons of Massachusetts, who have been benefactors of mankind, are sure to be remembered with honor and complacency by us, fellow-laborers in diminishing human suffering. By the remedial powers of our art, we are enabled to do much to relieve distress and improve the condition of the unfortunate.

In seeing our institutions, to which we welcome you, you will find the great New England idea that they are to promote the education, comfort and happiness of all classes of society in the main carried out. Provision is made for educating all classes of persons, and every profession except dentists. But we hope ere long to have a dental college, museum and library, which are urgently needed. I welcome you to the City of Boston, to Faneuil Hall, to Bunker Hill, to Harvard University, to our State and City Hospitals, to our City Library, to the collections of the Boston Society of Natural History, to the Warren Museum, where the most perfect skeleton of the mastodon is preserved, to the Institute of Technology, to the Cabinets of the Medical College, to our harbor and its islands, and last, but not least, to our hearts and hospitalities.

The report of the Committee on Credentials was then presented, which being read, was accepted. The report stated that there were representatives present from thirty Dental Associations, of four colleges, numbering one hundred and seventeen delegates, with thirty-five permanent members.

The chair, on motion, appointed as the Nominating Committee, Drs. W. W. Allport, J. Forbes, A. Hill, C. R. Butler, W. H. Atkinson, W. H. Morgan, J. S. Knapp, T. L. Buckingham and A. Lawrence, who retired for consultation.

The Report of Treasurer was received, and an Auditing Committee appointed.

A resolution was offered by Dr. George Watt, that a committee be appointed to draw up a Code of Ethics for the government of members, which was adopted, and the following committee appointed: Drs. Watt, McQuillen and Allen.

After a recess of twenty minutes, the Nominating Committee made their report. An election was entered into, which resulted in the selection of the following named gentlemen for officers of the Association for the ensuing year:

President—C. P. FITCH.

1st Vice-President—W. H. MORGAN.

2d Vice-President—L. D. SHEPARD.

Corresponding Secretary—A. HILL.

Recording Secretary—J. TAFT.

Treasurer—W. W. SHEFFIELD.

The Association then adjourned to 7½ o'clock, P. M.

FIRST DAY—EVENING SESSION.

The principle business of the evening session consisted in the delivery of an excellent address by the retiring President, Dr. C. W. Spalding. The views there expressed are so admirably and forcibly presented, that it is commended as worthy of careful perusal. On the subject of Dental Education, he said :

“I doubt the utility of attaching a dental chair or chairs to schools of medicine, for the purpose of graduating students to practice dentistry. In my estimation such chairs are much needed in medical schools, but are useful only as a means of rendering the qualifications of the medical student more complete and comprehensive. Impressed as I am with the conviction that no subject of greater importance to the future well-being of our profession can engage the attention of this body, I take this occasion to bring the subject to your notice, and to propound to you the question whether we do not need a better, as well as a more extensive, system of dental education. To that question I think there can be but one response. The want is too perceptible to require either an argument or even an examination to prove its existence. The next question to be considered is whether the thing is practicable. Can it be done? Have we the means for its accomplishment within ourselves? And if this question is affirmatively answered, the final one is, how can it be best accomplished? We have the amount of educated talent in our ranks, which would be required to discharge the duties involved in the prosecution of the proposed work. All that is necessary is to draw out, to enlist, and to interest that talent, and we shall find that we have it in abundance. All enterprises of this character require, to insure success, two principal things—men and money. The ranks of the profession will supply the first, the second must come from their pockets. A little calculation will show how easily the necessary funds could be obtained, and how light the tax would really be which would yield sufficient means to place the whole enterprise upon a substantial basis. Let us suppose there are within the limits of the United States 10,000 intelligent dentists who can well afford to contribute to this important object. Suppose this whole number should each contribute \$25 a year, for a period of four years. This light tax would yield the enormous amount of one million of dollars. If but one-half this sum were realized, we shall have provided for a most evident present want. Some of the modes which suggest themselves for the accomplishment of this scheme are these: We must first arouse a deeper interest in the dental schools already established. We must relieve them from the pecuniary embarrassment under which some, if not all, are now laboring. We must provide them with the needed appliances for putting their respective institutions into good working condition. They are in want of books for their libraries, furniture for their infirmaries, fixtures and machinery for their laboratories, preparations and specimens for their museums, chemical and philosophical apparatus, etc. The next important consideration is the establishment of an additional number of schools. So far as I know there are but five dental colleges in the whole United States: one in Baltimore, two in Philadelphia, one in New York, and one in Cincinnati. We want to enlist the whole mass of the profession in this subject. To do this it needs only that the

subject shall be fairly uncovered, and laid before them. Our young men have a right to demand that we give them opportunities to educate themselves, for it is among them that the great work is mainly to be done. Once having provided ample educational facilities, we, in return, shall have the right to insist that every candidate, before assuming the high duties of a practitioner of dentistry, shall at least have passed the ordeal of a thorough examination before a properly constructed dental board, if we do not go still further and demand that he shall have graduated at a dental college."

After the passage of a vote of thanks to the retiring officers, and the transaction of some unimportant business, the session closed.

SECOND DAY—MORNING SESSION.

The second day's morning session was taken up with the reports of Committee on Dental Physiology. Proposed amendments were offered to the Constitution; there was also an excellent essay presented by Dr. John Allen on Dental Physiology. The report on Dental Physiology coming up for consideration, an animated discussion ensued, opened by Dr. J. H. McQuillen on the subject of interglobular spaces in dentine, and was participated in by Drs. Allport and Suesserott on the same subject.

This session was an exceedingly interesting one; the debate on the subject of interglobular spaces attracting more than usual attention, and being participated in by the speakers with great interest. At the evening session, the same subject was considered, the speakers being Drs. Atkinson, McQuillen, Barker, Allen, Dodge and Taft. Several of these gentlemen spoke at length on this subject, the debate on some occasions being of quite a personal character.* The published reports of these sessions are of more than ordinary interest, and this discussion will be doubtless an incentive to a more extended examination of dental structures by means of the microscope, and hence will be productive of much good.

The Order of Business was suspended to receive the report of the Committee on the Claims of the Dental Vulcanite Company. The recommendation of the committee was to create a commission of five members, who shall raise funds to be devoted to the protection of the interest of such dentists as may be prosecuted by the Company, provided satisfactory terms cannot be obtained. Considerable debate occurred, several gentlemen protesting against the Association having anything to do with the

* Of this debate, Dr. R. S. Makenzie, of the *Philadelphia Press*, of Sept. 12th, says:—"The transactions at this session, as reported by Dr. W. C. Horne, New York, are graphic and full of interest. Many important points were discussed. If Dr. W. H. Atkinson, New York, reminded the profession, by the affluence of his locks, of Absalom, he must also have brought into their minds Ishmael, whose hand was against every man, and every man's hand against him. The guerilla warfare which this able eccentric waged on all around is well reported here, and must have been highly amusing."

subject, it being considered a matter which was entirely out of the province of the Association to act upon.

The chair, on motion, appointed Drs. McKellops, Horne, Lyon, Morgan and Cushing.

THIRD DAY—MORNING SESSION.

The morning session of the third day was occupied with the following business:

On motion of Dr. B. F. Arrington, of N. C., a committee, consisting of Drs. Morgan, Butler, Mills, Knapp and Lawrence, was appointed to test certain preparations of gold for filling teeth.

The subject of Dental Physiology was resumed, and elicited remarks from Drs. Spalding and Taft.

It was determined by the Association to hear the reports of Standing Committees and all volunteer essays before proceeding to their discussion. The effect of this resolution was shown in the subsequent meetings, as the main features of the reports and essays had passed out of the memory of members, and it was therefore impossible to discuss the subjects presented in the different reports and essays. The reports on Dental Pathology, Operative and Mechanical Dentistry were read, as were also volunteer essays by Dr. J. S. Knapp on the Sacrifice of the Human Teeth, and by Dr. W. H. Atkinson on Reproduction of the Alveolar Processes.

The selection of the next place of meeting being the special order of business, an election was entered into, which resulted in the choice of Cincinnati, Ohio. The announcement met with general approbation.

Adjournment then took place to enable members and invited guests to accept the invitation of the Massachusetts Dental Society, and the dentists of New England present, to an excursion by steamer down the harbor. A short stop was made at Fort Warren to allow those who desired an opportunity to stroll through the fort and around the grounds. A band on the steamer discoursed during the trip most excellent music, which, in addition to the bountiful fare provided, added greatly to the enjoyment of all. The committee who perfected the arrangements for the excursion, deserve especial mention, it being in every sense a perfect success. It consisted of Drs. Wetherbee, Leach, Hitchcock, Salmon, Rolfe, Codman, Lawrence, Bachelder, Keep and Shepard. On the return of the party, a humorous poetic welcome was read at Doric Hall, beneath the flags of the Commonwealth, by Dr. J. T. Codman.

THIRD DAY—EVENING SESSION.

The evening session of the third day was taken up with the reading of the report on Mechanical Dentistry, with a report on Dental Education, and the presentation of volunteer essays on the same subject from Drs. J.

S. Latimer and C. P. Fitch. The remainder of the session was devoted to the consideration of a variety of motions on the report of the commissioners to treat with the Dental Vulcanite Company. The following nominations were finally confirmed: Drs. H. J. McKellops, J. M. Riggs, A. Hill, E. G. Leach, W. H. Morgan and C. W. Spalding.

FOURTH DAY—MORNING SESSION.

The report of Committee on Dentifrices was read by Dr. McManus, and accepted; also the report on Dental Literature by Dr. Hill.

It having been ascertained that Governor Bullock, of Massachusetts, was in the State House, a committee, consisting of Drs. Shepard, Spalding and Lawrence, was appointed to invite His Excellency to visit the Association. The committee waited upon Governor Bullock at an appointed hour, and escorted him to the speaker's chair, the members receiving him standing in their places. After a brief introduction by the President, with cheers by the members, the Governor spoke as follows:

"I trust, Mr. President, that this too kind introduction does not imply any obligation upon my part, either of courtesy or necessity, of making anything like an address to this Association. According to the very courteous invitation of your committee, it has been my great pleasure to present myself to-day to do honor to the attendance of this honored and respectable convention in the hall of the House of Representatives of Massachusetts. The House of Representatives have extended to the members of this convention permission and a cordial invitation to avail themselves of the use of this hall, and it only remains for me, sir, in behalf of the executive department of the government, to welcome you and the members of your body with equal cordiality to the capital of the Commonwealth of Massachusetts. (Applause.) I am impressed, sir, at the first sight, by the presence, by the individuality, by the whole appearance of your representative body. You represent what was formerly a small specialty in the department of medical science, or that which was at one time but a small branch of the great tree, which has become now almost as large as the trunk itself, and overshadows the community by its services; which is as great for its usefulness as for its love for the good of the race, and you are its ornaments.

I am happy to believe also, Mr. President, that I have the honor to stand before gentlemen who, in their present capacity and experience, have been true friends of their country.

But, sir, it is my only intention to accept the kind and courteous attentions of your committee, and present to you the cordial welcome of Massachusetts to all the members of your body."

The regular order of business being resumed, discussion on the report of Dental Pathology and Surgery was entered into. Drs. Barker, Kenicott, Knapp, Fitch, Suesserott, Colburn, Watt, Buckingham, Atkinson, McQuillen, Butler, Wetherbee, Clark and Lawrence participated. Their remarks referred to the following subjects: tempero-maxillary anchylosis, neuralgia, alveolar abscess, periodontal inflammation, reproduction of

alveolar processes, influence of scrofulous diathesis on the teeth, diseased antrum and effect of root filling. Each of these subjects received careful attention, and were ably discussed—this session being probably the most interesting and instructive of the entire meeting.

FOURTH DAY—EVENING SESSION.

The report of the Committee on Dental Ethics was presented by the chairman, Dr. Watt, and was adopted, as follows :

CODE OF DENTAL ETHICS, ADOPTED AT THE SIXTH ANNUAL SESSION OF THE AMERICAN DENTAL ASSOCIATION.

ARTICLE I.—*The Duties of the Profession to their Patients.*

SEC. 1. The dentist should be ever ready to respond to the wants of his patrons, and should fully recognize the obligations involved in the discharge of his duties toward them. As they are, in most cases, unable to correctly estimate the character of his operations, his own sense of right must guarantee faithfulness in their performance. His manner should be firm, yet kind and sympathizing, so as to gain the respect and confidence of his patients; and even the simplest case committed to his care should receive that attention which is due to operations performed on living sensitive tissue.

SEC. 2. It is not to be expected that the patient will possess a very extended or a very accurate knowledge of professional matters. The dentist should make due allowance for this, patiently explaining many things which may seem quite clear to himself, thus endeavoring to educate the public mind so that it will properly appreciate the beneficent efforts of our profession. He should encourage no false hopes by promising success, when, in the nature of the case, there is uncertainty.

SEC. 3. The dentist should be temperate in all things, keeping both mind and body in the best possible health, that his patients may have the benefit of that clearness of judgment and skill which is their right.

ARTICLE II.—*Maintaining Professional Character.*

SEC. 1. A member of the dental profession is bound to maintain its honor, and to labor earnestly to extend its sphere of usefulness. He should avoid everything in language and conduct calculated to dishonor his profession, and should ever manifest a due respect for his brethren. The young should show special respect to their seniors; the aged special encouragement to their juniors.

SEC. 2. The person and office arrangements of the dentist should indicate that he is a gentleman; and he should sustain a high-toned moral character.

SEC. 3. It is unprofessional to resort to public advertisements, cards, handbills, posters, or signs calling attention to peculiar styles of work, lowness of prices, special modes of operating; or to claim superiority over neighboring practitioners; to publish reports of cases or certificates in the public prints; to go from house to house to solicit or perform operations; to circulate or recommend nostrums; or to perform any other similar acts.

SEC. 4. When consulted by the patient of another practitioner, the

dentist should guard against inquiries or hints disparaging to the family dentist, or calculated to weaken the patient's confidence in him; and if the interests of the patient will not be endangered thereby, the case should be temporarily treated, and referred back to the family dentist.

SEC. 5. When general rules shall have been adopted by members of the profession practicing in the same localities in relation to fees, it is unprofessional and dishonorable to depart from those rules, except when variation of circumstances requires it. And it is ever to be regarded as unprofessional to warrant operations or work, as an inducement to patronage.

ARTICLE III.—*The Relative Duties of Dentists and Physicians.*

Dental Surgery is a specialty in medical science. Physicians and dentists should both bear this in mind. The dentist is professionally limited to diseases of the dental organs and the mouth. With these he should be more familiar than the general practitioner is expected to be; and while he recognizes the superiority of the physician in regard to diseases of the general system, the latter is under equal obligations to respect his higher attainments in his specialty. When this principle governs, there can be no conflict or even diversity of professional interests.

ARTICLE IV.—*The Mutual Duties of the Profession and the Public.*

Dentists are frequent witnesses, and, at the same time, the best judges of the impositions perpetrated by quacks; and it is their duty to enlighten and warn the public in regard to them. For this, and the many other benefits conferred by the competent and honorable dentist, the profession is entitled to the confidence and respect of the public, who should always discriminate in favor of the true man of science and integrity, against the empiric and impostor. The public has no right to tax the time and talents of the profession in examinations, prescriptions, or in any way without proper remuneration.

The adoption of this report elicited much opposition from many members, the debate being particularly spirited. The opposition to the Code may be explained by the remarks of Dr. McQuillen, who, though a member of the committee, "stated that he could claim no credit for its preparation; on general principles was opposed to its adoption as unnecessary for gentlemen, and its enforcement impracticable upon those who were not."—*Dr. Horne's Report.*

FIFTH DAY—MORNING SESSION.

A most interesting and instructive discussion was entered into on the subject of the treatment and appliances for the correction of irregularities. Drs. Kingsley, Barker, Taft, Allport, Spalding, McKellops and others, detailed their methods of treatment, which elicited marked attention and interest. The subject of mechanical appliances for cleft palates was taken up, the subject being opened by Dr. McKellops, who presented his own method of manipulations as also the result of the successes he had witnessed in the hands of certain English and French practitioners; he was

followed by Dr. N. M. Kingsley who demonstrated for over two hours his own peculiar methods of obtaining impressions and forming artificial palates, explaining in the minutest possible manner everything connected therewith. The afternoon session was taken up with the same subject. Dr. Kingsley upon the floor, being subjected to the closest questioning, giving in each case a lucid and clear exposition of all he knew on the subject. He was followed by Dr. E. A. Bogue, and we earnestly desire never to be permitted to hear so personal a debate engaged in by any member of the Association; the whole object and aim of this speaker seemed to be to convey the impression that Dr. Kingsley had *not* given such information at home or abroad as enabled dentists to make artificial palates in the same manner as Dr. K. This position was effectually overthrown by the testimony of gentlemen present, who had made them from the instructions received from Dr. Kingsley at Saratoga and elsewhere, while we were assured by an eminent practitioner and former editor of a Dental Journal, that one gentleman in the West had made a Kingsley's palate from his report of Kingsley's remarks at the Saratoga Convention, without further instructions. At the close of his remarks, a vote of thanks was offered to Dr. N. M. Kingsley, on motion of Dr. W. H. Atkinson, for his past and present efforts to impart instruction and information on the subject of substitutes for palatine fissures. It was unanimously adopted.

SIXTH DAY—MORNING SESSION.

The Committee on Publication were instructed to sell, at their discretion, copies of the printed reports of the proceedings of the Association, to whomsoever, and at whatever price, they might think best. This is an important step in the right direction, as it has been impossible for members of the dental profession to obtain the entire proceedings without they were members of the Association. We hope the transactions will be put in all the dental depots for sale, that all who desire may read the valuable essays, reports and discussions, with profit and instruction.

The personal reflections upon Dr. Kingsley, introduced into last year's report on mechanical dentistry, on the subject of artificial palates, were, by unanimous vote, ordered to be expunged from the report to be published by the committee.

The following report introduced by Dr. W. C. Horne, of New York, was unanimously adopted:

At a meeting of the members of the American Dental Association, held at the Revere House, on Monday morning, Aug. 6th, Dr. Morgan in the chair, Dr. Kingsley as Secretary, a committee was appointed to draw up resolutions of thanks, for the adoption of this meeting, the committee consisting of Drs. Forbes, Taft, Clarke and Horne. The resolutions presented by Dr. Horne were unanimously adopted.

Whereas, The members of the American Dental Association having received marked kindness and attention during their session in the City of Boston, are desirous of expressing their appreciation of those courtesies: therefore

Resolved, That our thanks are due and are hereby tendered to the authorities of the State for granting the use of the Legislative Halls for the purposes of this Association.

Resolved, That to our Committee of Arrangements, and the dental profession of New England, we owe a debt of gratitude for their unceasing efforts to contribute to our comfort and pleasure, which we will ever hold in remembrance.

Resolved, That to the daily press we offer our thanks for faithfully reporting and publishing our proceedings.

The subject of dental education was then taken up. The subject was opened by Dr. Kingsley, and was participated in by Drs. Miller, Colburn, Barker, Kennicott, Allport, Watt and McQuillen. The tendency of the remarks of each of these speakers was to encourage and strengthen dental colleges; there were no invidious and caviling remarks made calculated to bring discredit on any institution, but the whole discussion was doubtless cheering and encouraging to those engaged in teaching and elevating dental colleges.

On motion of Dr. McKellops, it was resolved that the urgent request of the Association be extended to all the members of the profession who may have in their possession any anatomical, physiological or pathological dental preparations or specimens to place them in the museums of the Dental Colleges, that they may then be of the greatest value to the profession.

A committee having been previously appointed to wait upon Major-General Benjamin Butler, he being then present in the State House, and request him to address the Association, reported that Major-General Butler would comply with the invitation. He then entered the hall, the audience rising and applauding as he entered.

The President, on behalf of the Association, welcomed him to the Association, and, after an introduction, he addressed the body substantially as follows:

SPEECH OF GENERAL BUTLER.

In commencing, he thanked the President and members of the Association for the grateful compliment offered him, and said that the sudden call left him without fitting thoughts or expressions in which to render his thanks. They represented, he said, a large portion of the Union as delegates from a profession which has made more advance within the last half century than any other, perhaps because a greater need for such advance had been shown within that time. If they looked to any branch of science, of mechanics, of literature, they would see that the wants of the age had always been met by a supply. A hundred years ago the Atlantic cable would have been an impossibility, because there was no need for it. It

required first the canal, then the turnpike, then the railway, then the steamboat communication, moving gradually step by step, and laying the foundation for the need of the introduction of telegraphic communication.

He would remember that to their profession was due the invention, if not that certainly the development of one of the two great discoveries of the age, that of anæsthesia. He had been the delighted spectator of its use on a great and extended scale. And to the use of chloroform and ether he thought could be attributed the most remarkable fact in surgical science, that out of the 90,000 men who passed through the hospitals of the Department of Washington, but six per cent. of them lost their lives. An unprecedented extent of cure resulting from surgical operations with which no nation of the world can make any comparison.

They must also remember that while these good gifts have been given to them in their profession, so the good gifts of the Almighty have been spread over the land in every profession, and he would be a bold man who would declare that there was not progress and development. He remembered that one of the most scientific men of England was demonstrating over the whole country the impossibility of a steamboat being constructed which could cross the Atlantic Ocean at the same time that the Savannah sailed from the harbor of New York.

But while they all agreed they could make progress in science and the mechanic arts and in every department of human elevation, yet there are those who believed that there can be no progress in the science of human government. He asked if they could not hope that there would be an advancement in political science, in the knowledge of the science in which this nation shall be as she has been in the steamboat, in the telegraph, in the locomotive, in the great relief of human suffering—might they not believe that the nation would be the banner nation in bringing government as near perfection as human affairs will permit, until at least such government would be established not only in this country, but all over the world, as to allow every man to reap the fruits of his birthright and be the equal of every other man if he can.

Renewing his thanks for the very agreeable and courteous honor done him, he wished the members of the Association God speed upon their return to their pleasant homes.

The remarks of Gen. Butler were frequently interrupted with applause, which lasted for some time after their conclusion, when an opportunity was afforded, of which many of the members availed themselves, to shake hands with the General.

Dr. S. P. Miller, of Worcester, introduced the following resolution, which was enthusiastically adopted :

“Resolved, That this Association is happy to see and hear Major-General Butler, and it also wishes he had been in command at New Orleans one week ago.”

After the passage of the above resolution, the General retired, and the discussion of dental education was resumed. It was participated in by Drs. Hill, McKellops, Barker, Fitch, Atkinson, Taft and Riggs. The last named gentleman was particularly severe on dental colleges, and to judge from the tenor of his remarks, his idea was that these institutions had better

be abolished as quite useless; he spoke sarcastically of "fat, lazy professors," From certain remarks by other gentlemen named, we should judge that there existed somewhere about the caput *active congestion, if not acute inflammation*. We shrewdly suspected that non-election as professors had some influence on their feelings and judgments. One particularly spoke of his "mission" to teach, and washed his hands, publicly, of what he termed "dirt," as he had done repeatedly during the session; doubtless to himself they personified purity itself.

SIXTH DAY—AFTERNOON SESSION.

On the reading of the minutes for the morning session, Dr. McKellops objected to the vote of thanks to General Butler appearing on the record, and Dr. Spalding moved that the Publication Committee be directed to expunge all political matters from the transactions previous to publication; both motions were lost, also a motion to reconsider. A protest against the action of the Association in suffering political remarks to appear on the records was presented, and entered upon the minutes—it was signed by about a dozen delegates. A large portion of the afternoon session was taken up in debate on this subject.

A resolution was offered by Dr. Lawrence as follows:

Resolved, That a committee of three be appointed to draft suitable suggestions upon the subject of accepting students, and that such suggestions be printed in circular form for the consideration of every dental practitioner in the United States. That the expense of such printing and distribution be borne by the Association.

The committee consists of Drs. Lawrence, Watt and Taft.

The subject of dentifrices was discussed, and liquid preparations came in for considerable denunciation, but no definite action was taken. The merits of crystal gold was discussed by Drs. J. S. Knapp, Wetherbee and others; also the merits of cylinders for filling teeth. Dr. C. Palmer presented Dr. Allport's theory of pulp amputation, and asserted that union of the cut surfaces took place by first intention, to which Dr. McQuillen made very decided objection. In response to an invitation from Dr. N. C. Keep, those members remaining spent the evening at his house, where there was a most cordial interchange of fraternal sentiment and civilities.

SEVENTH DAY.

The final session was but slimly attended, most of the members having left for their homes. The session was only prolonged to hear the report of the committee appointed to make terms with the Dental Vulcanite Company. Dr. Morgan, the President of the commission, reported that they had agreed upon terms with the Rubber Company which required the dentist to take a license for the use of hard rubber, on the basis of a royalty

of two and a half dollars for full upper or under sets, and one dollar for partial sets of six teeth or less. The reckoning to commence from May 1st, 1865, from which time to July, 1866, a deduction of fifty per cent. would be made. The books of dentists to be examined in cases of suspected fraud, by the local society or an impartial committee. He expressed the opinion that the Goodyear patent was a good one, while the Cummings' claim was without foundation. The terms agreed upon he believed to be as good as could be obtained. The license, accompanied by a circular, would be sent out to all dentists. The Commission had not in any way committed themselves to the legality of the Cummings' patent.

The Association confirmed the action of the Commission, and then adjourned to meet at Cincinnati, the last Tuesday in July, 1867.

We regret that space will not permit us to notice many valuable inventions, appliances, chairs, in fact almost everything in the way of office or laboratory instrument or furniture there presented. Many of these should receive special description. The daily clinical demonstrations were of priceless value to those who wished to see and know how to do good work in the operative department. These, with many other things, were in every way commendable; but there were also some things which, as an impartial journalist, we must call attention to as calculated to mar, instead of perfect, our Association meetings. One of these is the non-enforcement of rules of order by the presiding officer, who has it in his power either to have harmony or discord among members, and no person should accept a position, as presiding officer, unless he feels himself competent to decide such questions of order as may present themselves in a deliberative body. There were several sessions of the meeting where almost the whole time was occupied in debate on motions and resolutions which a President could have decided in a few moments, thus permitting business to proceed as it should have done. There was one other feature to which we shall direct attention—it was the frequent clapping of hands by members, and applause which were indulged in by some, which, while appropriate enough in a political body, was decidedly out of place in a scientific one. The introduction of politicians and political subjects into the Association is one calculated to weaken, instead of strengthen the organization, by introducing subjects of discussion foreign to the objects and designs of the Association. As an individual, we agree with the sentiments expressed by the gentlemen introduced, but, as a member of the body we think no one should be introduced unless their address shall be upon scientific subjects. There was so much to be gratified with at the Boston meeting that we feel almost constrained not to mention what, in our report, seemed to us imperfections, but believing that a proper discussion of subjects,

where there is a difference of opinion, leads to good results, we have published these thoughts.

We finish this report with a single suggestion. The business of the Association is yearly accumulating, the session is being extended, and members are obliged to be absent a longer time than they desire. How can this be obviated? We suggest that time can be gained in one direction by dispensing with the reading of the reports of Standing Committees, but have them printed and placed on members' seats. They can then be read between sessions, and delegates will be able to discuss the reports when they come up in proper order.

G. T. B.

OBITUARY.

The American Dental Convention, at its annual meeting in New York, adopted the following resolutions of respect to the memory of Ashael Jones, a gentleman who for many years devoted his energies and talents to the advancement of the best interests of the dental profession. As a gentleman and friend, we cordially bear testimony to his worth. G. T. B.

Whereas, The American Dental Convention has learned with profound sorrow of the death of Mr. Ashael Jones; and

Whereas, Mr. Jones has so long been thoroughly identified with the dental profession, individually and collectively, as perhaps no other man ever was; therefore,

Resolved, That this Convention desires, as much as mere words can, to express its sense of the irreparable loss the dental profession has sustained in the sudden removal of its late co-laborer and untiring friend, Mr. Ashael Jones.

Resolved, That the Secretary transmit a copy of these resolutions to the family of our late lamented and universally beloved associate, and to the dental journals for publication.

Editorial.

WE are under obligations to Messrs. Parrish and Mellor, pharmacutists, Phila., for an agent of considerable value to the dentist. It is known as Tinct. Iodinii Decolorat, or colorless tincture of iodine. It is designed only for local use, and possesses the properties of the officinal tincture, without leaving the usual unpleasant stain upon the surface. It is also useful for removing the stains of nitrate of silver.

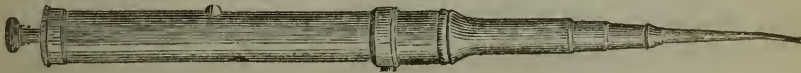
G. T. B.

WE are indebted to Dr. Lawrence, of Lowell, Mass., for an interesting specimen of necrosis of the maxilla and alveolar process. It has been placed in the College Museum.

G. T. B.

SNOW & LEWIS' AUTOMATIC PLUGGER.

Our experience in the use of the Snow & Lewis Automatic Plugger has been such that we take great pleasure in recommending it to the profession. Having had one in use over six months, we have learned to consider it almost indispensable in practice, and with the improvements lately added, it would seem to combine more advantages than any other in market. It has a large range of force; is easy and *certain* in its action, giving a blow very much resembling that of the hand mallet, and all the internal mechanism is strong and well finished. It would seem scarcely possible for one of them to get out of repair.



The above cut represents the instrument, one half size.

Messrs. Snow & Lewis have recently added an improvement, by which the working part may be locked, thereby rendering it possible to use the instrument as a hand or automatic plugger at pleasure. This we esteem a great improvement, and a feature not presented in any other automatic plugger. The changes are made in the same manner as that from a heavy to a light blow, which can be done with one hand, while operating, with great ease, and in the shortest possible time. No new parts are added, and the improvement does not complicate the instrument in the least.

We have heard a description of the method of manufacture of this plugger, and were much pleased with the means taken to insure accurate workmanship. The different parts are made by the quantity, under the personal supervision of the inventors, and are worked to gauges in a similar method to that of manufacturing fire-arms, and are interchangeable.

As an evidence of the popularity of this instrument, we understand the sales are more than double that of any other plugger.

T. L. B.

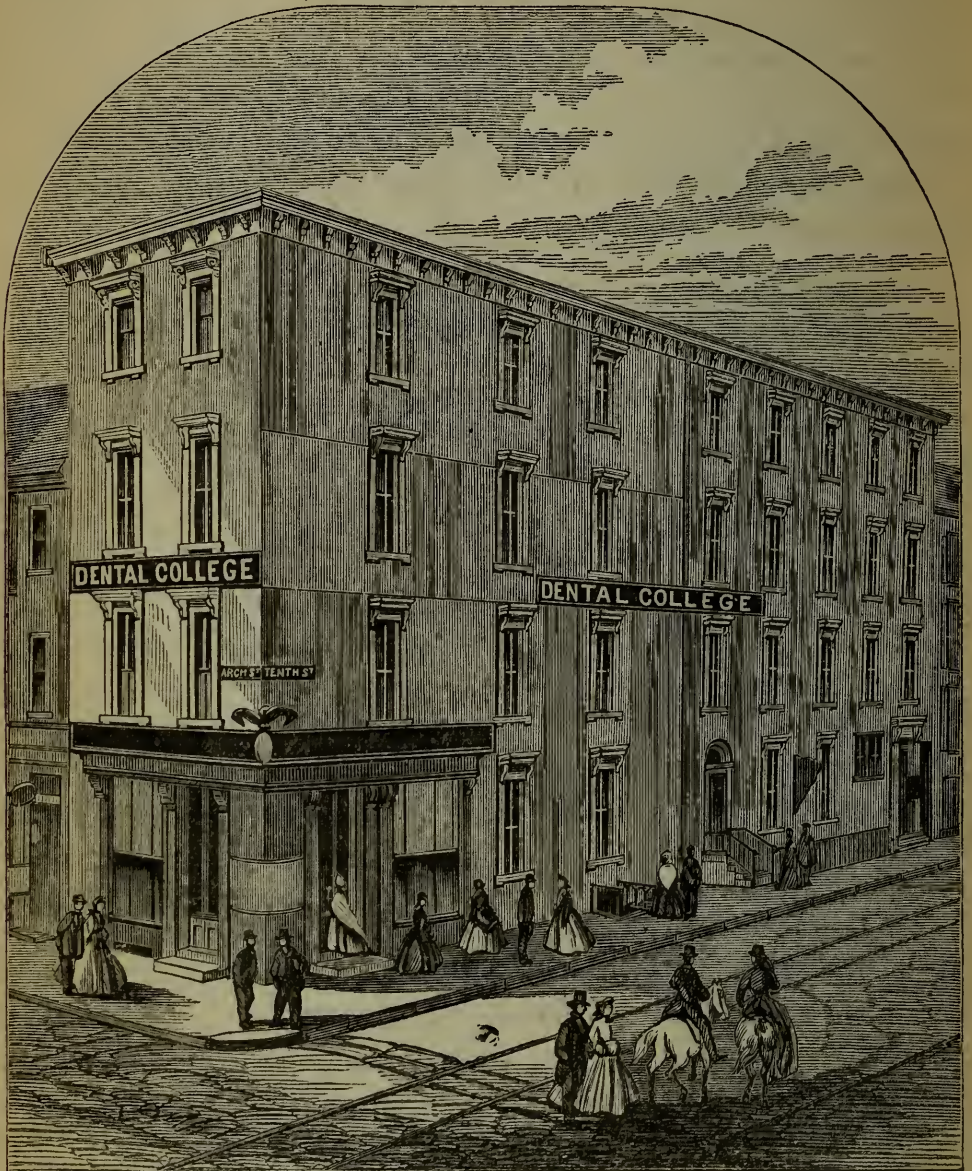


☞ Dr. G. F. J. Colburn, of Newark, N. J., has presented us with a small caustic holder intended to prevent fluid caustic, such as creasote or solution of nitrate of silver, from running down and cauterizing the lips when being applied to the gums. It is very simple in its construction and can be made by any dentist. A piece of wire two inches long is inserted in a handle, and over the wire is a glass tube one inch long. The tube slides over part of the handle to keep it firm, and a small cork, half way up the tube, keeps the wire in the centre of it. When the caustic is taken up on a small piece of cotton, if any should run down, it is caught in the tube and prevented from touching the lips.

T. L. B.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

THE ELVENTH ANNUAL SESSION, 1866-'67.



TRUSTEES.

| | |
|----------------------------|--------------------------|
| HENRY C. CAREY, PRESIDENT, | GEORGE TRUMAN, M. D., |
| W. L. ATLEE, M. D., | S. DILLINGHAM, D. D. S., |
| DANIEL NEALL, D. D. S., | G. R. MOREHOUSE, M. D., |
| ELLESLIE WALLACE, M. D., | THOMAS WOOD, |
| BENJAMIN MALONE, M. D., | J. R. McCURDY, |
| W. W. FOUCHE, D. D. S., | CHARLES HAMILTON, Sec'y. |

FACULTY.**J. D. WHITE, D. D. S.,***EMERITUS PROFESSOR.***T. L. BUCKINGHAM, D. D. S.,***PROFESSOR OF CHEMISTRY AND METALLURGY.***E. WILDMAN, M. D., D. D. S.,***PROFESSOR OF MECHANICAL DENTISTRY.***G. T. BARKER, D. D. S.,***PROFESSOR OF PRINCIPLES OF DENTAL SURGERY AND THERAPEUTICS***W. S. FORBES, M. D., D. D. S.,***PROFESSOR OF ANATOMY AND PHYSIOLOGY.***JAMES TRUMAN, D. D. S.,***PROFESSOR OF DENTAL PHYSIOLOGY AND OPERATIVE DENTISTRY.*

EDWIN T. DARBY, D. D. S.,*DEMONSTRATOR OF OPERATIVE DENTISTRY***J. M. BARSTOW, D. D. S.,***DEMONSTRATOR OF MECHANICAL DENTISTRY.*

The Lectures to the Regular Course commence on the 1st of November and continue until the 1st of March.

During the last two weeks of October, preliminary Lectures are delivered, one each day.

The Rooms for Operative and Mechanical Dentistry are open from the 1st of October and throughout the session, under the supervision of the Demonstrators.

The Dissecting Room, under the superintendence of the Professor of Anatomy and Physiology, is open during the session.

| | | |
|---------------------------------------------------------------|---------|--------------|
| Fees for the Course, (Demonstrators' Ticket included,) | - | \$100 |
| Matriculation, (paid but once,) | - - - - | 5 |
| Diploma Fee, | - - - - | 30 |

T. L. BUCKINGHAM, Dean,

C. P. REESS, Janitor.

243 North Ninth St., Philadelphia.

P. S.—Board may be had at from \$3.50 to \$6.00 per week.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

The Eleventh Annual Session, 1866-'67.

The eleventh annual session of the Pennsylvania College of Dental Surgery will commence on the first of November, and continue until the first of March. Preliminary lectures will, however, be delivered each day during the latter half of the month of October. The Dispensary and Laboratory of the College will also be open from that time, where ample opportunities will be afforded for the prosecution of the practical part of the profession under the daily supervision of the Demonstrators, who are gentlemen of known integrity and thorough capability. During October, as well as the entire session, a clinical lecture will be delivered, and operations performed by one of the Professors every Saturday afternoon.

The course is so arranged that fifteen lectures are delivered each week, on the various branches taught in the school. A synopsis of the manner in which each department is treated will be found under the head of the different chairs.

These lectures occupy about the average time of three hours each day. In addition, four hours are daily spent by the student in actual practice. With this object in view, the operating rooms are furnished with twenty chairs, so arranged as to command the best light, and all the appliances necessary for comfort and use. To these chairs the students are assigned in classes, and certain hours are fixed for each member of the class to operate.

Each student is required to provide his own instruments, (except those for extracting,) and to operate with them. He is expected to keep them in perfect order, and for that purpose is provided with a table in which they can be locked up when not in use. As the operations performed at the College are entirely gratuitous, a superabundance of patients invariably present themselves.

In the mechanical department every process known in the profession, which has any value to the mechanical dentist, is fully taught; and receipts of valuable compounds are freely imparted. All the conveniences are at hand in the Laboratory for the preparation of metals, manufacture of teeth, (single and in blocks,) mounting, etc.; and the student is required to go through all the necessary manipulations connected with the insertion of artificial teeth—from taking the impression to the thorough construction of the denture, and proper adjustment of it in the mouth of the patient.

In addition to the facilities afforded by the College for a thorough course of instruction in the theory and practice of Dentistry, the celebrated hospitals and clinics of the city constantly enable the student to witness various important surgical operations which are highly interesting and instructive. The medical and surgical clinics of the Blockley Hospital, in particular, one of the largest eleemosynary establishments in the world, are open to Medical and Dental students, free of charge. The staff of this institution is composed of some of the most eminent physicians and surgeons of Philadelphia.

COURSE OF LECTURES.

CHEMISTRY AND METALLURGY.

The course of instruction from this chair will commence with the consideration of the imponderable substances.

The laws that govern the imponderable bodies will next claim attention, with some notice of symbols or chemical notations. Individual elements, and the compounds resulting from their combinations, will then be considered. Organic chemistry will receive its full share of attention.

The course will be illustrated by diagrams and such experiments as can be performed before the class.

DENTAL PHYSIOLOGY AND OPERATIVE DENTISTRY.

The lectures in this department will embrace the Physiological Anatomy of the teeth, general and microscopical, in addition to a minute and careful description of the various operations performed by the dental practitioner.

The microscope, models and diagrams, will be employed in illustration.

At the Clinic the incumbent of this chair will also demonstrate before the class the various operations described in his course of lectures.

MECHANICAL DENTISTRY.

The instruction from this chair will embrace the entire range of manipulations legitimately connected with the laboratory, arranged in two divisions—Mechanical Dentistry proper, and that to which has been applied the appellation of the Plastic department.

I. *Mechanical dentistry proper* will include everything appertaining to the construction of dental substitutes, passing through the different stages

of preparation, from taking the impression, to the completion and proper adjustment of the case in the mouth, conjointly with features, expression of countenance, enunciation, etc. It will likewise embrace the metallurgic treatment of the various metals employed, the preparation of plate and wire, the alloying of gold, together with the *alloys* used, as well as those designated as solders.

II. This division will comprise all that appropriately belongs to the manufacture of porcelain or mineral teeth—single teeth, block-work, continuous gum-work, vulcanite, etc. The materials, their preparation, compounds and uses, will be specially regarded.

All new inventions, modifications, and improvements, in this branch of the art, will in place receive due attention and investigation.

PRINCIPLES OF DENTAL SURGERY AND THERAPEUTICS.

The lectures delivered from this chair will embrace General Pathology, Dental Pathology, the Pathological Relations of the Teeth to other parts of the System, together with a minute description of all special diseases that have any relation to Dental Surgery, or of interest to the Dentist.

They will also include a careful examination of therapeutic agents and their general application. Their indications in the medical and surgical treatment of diseases of the mouth, both idiopathic and symptomatic, will be fully illustrated, and also the general hygienic rules and principles which come within the province of the practitioner.

ANATOMY AND PHYSIOLOGY.

The instruction in this department will embrace a plain and comprehensive view of the structure and functions of the Human Economy. The valuable anatomical preparations of the incumbent of this chair, (consisting of Papier Mache manikins, models in wood, drawings, wet and dry preparations,) will enable him to fully illustrate his course. With the same object, vivisections on the lower animals will also be employed.

The special relations of this branch to the wants of the dentist will be kept steadily in view, and such descriptions of the natural history, microscopical structure, connections, &c., of the teeth, as their importance demands, will be given.

The great facilities for the study of practical anatomy, to be found in the city of Philadelphia, obviate the necessity of providing a dissecting room in the College. For the usual fee of \$10, the student can have access to one of several well-ordered and well-supplied dissecting-rooms.

QUALIFICATIONS FOR GRADUATION.

The candidate must be twenty-one years of age. He must have studied under a private preceptor at least two years, including his course of instruction at the College. Attendance on two full courses of lectures in this institution will be required, but satisfactory evidence of having attended one full course of lectures in any respectable dental or medical school, will be considered equivalent to the first course of lectures in this College. Also satisfactory evidence of having been in practice five years, inclusive of the term of pupilage, will be considered equivalent to the first course of lectures. The candidate for graduation must prepare a thesis upon some subject connected with the theory or practice of dentistry. He must treat thoroughly some patient requiring all the usual dental operations, and bring such patient before the Professor of Operative Dentistry. He must, also, take up at least one artificial case, and after it is completed, bring his patient before the Professor of Mechanical Dentistry. He must, also, prepare a specimen case to be deposited in the College collection. The operations must be performed, and the work in the artificial cases done, at the College building. He must also undergo an examination by the Faculty, when, if found qualified, he shall be recommended to the Board of Trustees; and, if approved by them, shall receive the degree of Doctor of Dental Surgery.

Candidates for graduation who have not attended lectures.—Dentists who have been in continued practice since 1852 are eligible to be candidates for graduation without attendance on lectures. The candidate for graduation must present satisfactory evidence of his having been in practice for the allotted time, also of his good standing in the profession, he must prepare a thesis upon some subject connected with the theory or practice of dentistry. He must present specimens of his workmanship. He must undergo a satisfactory examination by the Faculty, when, if qualified, he shall be recommended to the Board of Trustees, and if approved by them, shall receive the degree of Doctor of Dental Surgery. Of this class of graduates, the matriculation and diploma fees only are required.

TEXT BOOKS AND WORKS OF REFERENCE.

Wilson's, or Leidy's Sharpey & Quains' Anatomy; Carpenter's Physiology, or Dunglison's Human Physiology; United States Dispensatory; Mitchell's Materia Medica; Fownes' Elements of Chemistry; Regnault's Chemistry; Lehmann's Pysiological Chemistry; C. J. B. Williams' Principles of Medicine; Wood's Practice; Tomes' Dental Physiology and Surgery; Harris' Principles and Practice; Taft's Operative Dentistry; Richardson's Mechanical Dentistry; Paget's Surgical Pathology, or other standard works on the subject.

MATRICULANTS.

NINTH ANNUAL SSSION, 1865-'6 6.

| | | | |
|---------------------------|---------------|----------------------------|---------------|
| J. P. Adams,..... | New York. | H. W. More,..... | Pennsylvania. |
| Stephen Annas,..... | Cuba. | J. W. Nelson,..... | Tennessee. |
| G. K. Bagby,..... | Virginia. | Henry S. Noble,..... | New York. |
| J. M. Barrett,..... | Pennsylvania. | W. Pellett,..... | Illinois. |
| Edward Bedloe,..... | Pennsylvania. | Casimer del Portillo,..... | Cuba. |
| Henry Berhard,..... | New York. | W. B. Race,..... | New York. |
| E. M. Beesley,..... | New Jersey. | F. A. Ramsay,..... | Pennsylvania. |
| T. H. Bradfield,..... | " | H. C. Register,..... | Maryland. |
| W. G. A. Bonwill,..... | Delaware. | John E. Register,..... | Maryland. |
| F. A. Brewer,..... | Missouri | Louis Jose Salicrup,..... | Porto Rico. |
| Samuel C. Britton,..... | Maryland. | Peter Schembs,..... | Pennsylvania. |
| Charles Buffett,..... | Ohio. | W. Smedley,..... | " |
| P. M. Christie,..... | Pennsylvania. | H. J. Smith,..... | " |
| R. L. Cochran,..... | Iowa. | C. W. Strang,..... | New York. |
| Wm. H. Crary,..... | New York. | James Tait,..... | Pennsylvania. |
| Frank Darby,..... | " | Henry F. Tefft,..... | Maine. |
| S. C. Dayan,..... | New York. | James S. Thomas,..... | New York. |
| Edw. S. Davenport,..... | New York. | Isador Tolon,..... | Cuba. |
| Timateo P. Dias,..... | Cuba. | John R. Thompson,..... | S. Carolina. |
| Francisco Dominguez,..... | Cuba. | A. P. Tompkins,..... | Pennsylvania. |
| E. C. Flamand,..... | Cuba. | Wm. H. Trueman,..... | " |
| Hamilton Forrest,..... | Maryland. | J. J. Vanderford,..... | Maryland. |
| Simon Frau, D. D. S..... | Cuba. | Agustin de Varone,..... | Cuba. |
| Rafael Gonzales,..... | Spain. | John H. Vedder,..... | New York. |
| Asher B. Greasemer,..... | Pennsylvania. | Francis Vega,..... | Porto Rico. |
| Albert Hape,..... | Georgia. | Erastus Walker,..... | New York. |
| L. B. Henderson,..... | N. Carolina. | Ransom Walker,..... | " |
| J. A. Houser,..... | Pennsylvania. | W. H. Walker,..... | Wisconsin. |
| Milton Keim,..... | Michigan | Wm. C. Wardlaw,..... | S. Carolina. |
| A. Lawrance,..... | Mass. | J. B. Wheeler,..... | New York. |
| W. K. Lineaweaver,..... | Pennsylvania. | O. N. Whitney,..... | Illinois. |
| Thomas F. McClure,..... | " | Wm. Williamson,..... | Pennsylvania. |
| Daniel Martin,..... | " | E. Wilson,..... | New York. |
| Mariam Martorell,..... | Porto Rico. | J. H. Winslow,..... | " |
| Francisco Mignotte,..... | Cuba. | | |

GRADUATES, 1865-'66.

| | | |
|---------------------------------|---------------|-----------------------------------|
| John P. Adams,..... | New York, | Salivary Deposits. |
| George K. Bagby,..... | Virgi nia, | Nitrous Oxide. |
| Henry Berhard,..... | New York, | Causes of Caries. |
| Thomas H. Bradfield,..... | New Jersey, | Inflammation |
| Francis A. Brewer,..... | Missouri, | Dentistry a Science. |
| Samuel C. Britton,..... | Maryland, | Predisposing causes of Caries. |
| Charles Buffett,..... | Ohio, | Arsenic. |
| Perley M. Christie,..... | Pennsylvania, | Inflammation. |
| William H. Crary,..... | New York, | Rubber versus Metal. |
| Edward S. Davenport,..... | " | Iodine. |
| Franciscus Dominguez,..... | Cuba, | Inflammation. |
| Eugene C. Flamand,..... | " | The Art of Filling Teeth. |
| Hamilton Forrest,..... | Maryland, | Decay of the Teeth and Treatment. |
| Albert Hape,..... | Georgia, | Dentistry a Science. |
| John A. Houser,..... | Pennsylvania, | Treatment of Exposed Pulp. |
| Milton Keim,..... | Michigan, | Artificial Dentures. |
| Washington K. Lineaweaver,..... | Pennsylvania, | Inflammation. |
| Francisco Mignotte,..... | Cuba, | Extracting Teeth. |
| James W. Nelson,..... | Tennessee, | Indigestion as a cause of Caries |
| Henry S. Noble,..... | New York, | Antrum Highmorianum. |
| Francis A. Ramsay,..... | Pennsylvania, | Sensitive Dentine. |
| Henry C. Register,..... | Maryland, | Digestion. |
| Louis Jose Salicrup,..... | Porto Rico, | Extraction of Teeth. |
| William Smedley,..... | Pennsylvania, | The Fifth Pair of Nerves. |
| Henry J. Smith,..... | " | Sensitive Dentine. |
| James S. Thomas,..... | New York, | Chemistry. |
| William H. Trueman,..... | Pennsylvania, | Materials for Filling Teeth. |
| Agustin de Varone,..... | Cuba, | Development of the Teeth. |
| Julien J. Vanderford,..... | Maryland, | Dentistry. |
| John H. Vedder,..... | New York, | Treatment of Irregularities. |
| Ransom Walker,..... | " | Diagnosis. |
| William C. Wardlaw,..... | S. Carolina, | Anæsthesia in Dentistry. |
| John B. Wheeler,..... | New York, | The Dental Pulp. |
| A. Lawrance,..... | Mass. | |
| J. M. Barrett,..... | Pennsylvania. | } In practice since 1852. |
| W. G. A. Bonwill,..... | Delaware. | |

| | |
|--------------------------------------------------------------------------|------|
| Number of Patients visiting the Clinic, during Session of 1865-'66,..... | 2480 |
| Number for whom operations were performed,..... | 1692 |
| Number of Fillings put in,..... | 1304 |
| Number of Teeth Mounted for Patients,..... | 2212 |

THE DENTAL TIMES.

VOL. IV.

PHILADELPHIA, JANUARY, 1867.

No. 3.

ACONITE AS A DENTAL THERAPEUTIC.

BY GEO. T. BARKER, D. D. S.

Among the many agents indicated in the treatment of dental diseases, aconite should deservedly rank among the most necessary and useful, and yet its inherent qualities do not seem to be understood or appreciated; hence I have concluded that an article directing attention to its properties and uses, will be appropriate and instructive.

Aconite is a plant of the Nat. Ord. *Ranunculaceæ*, there being four principal species; the *Aconitum Napellus* is the only one, however, which is officinal in the Pharmacopœias of the United States and Great Britain. The plant is found in the mountainous regions of Germany, France and Switzerland, and has also been introduced under the common name of wolfsbane or monk's-hood, as an ornamental shrub in the gardens of this country, as its helmet-shaped, dark blue or violet-colored flowers are of great beauty. All parts of the plant possess medicinal properties; but in the leaves and roots the peculiar organic alkaloid *aconitia*, the active principle, is found in the greatest quantity. This alkaloid is by some authors called aconitina and aconitin. The medicine was known to the ancients, and was largely used for the purpose of destroying wild beasts, lest they should overrun the country, aconite being rubbed on pieces of meat, which were placed in their usual haunts.

“Media is presented by Ovid as preparing her poisons from it; it was also used, like conium, as a State poison. The Gauls dipped their arrows in its juice, and at the present day some eastern tribes are said to use it for the same purpose, as well as for poisoning the wells and water tanks of their enemies in time of war.”* Aconite may be appropriately classed among the nervous sedatives, as it possesses the property of reducing nervous power, while it also depresses the circulation. Sir Benjamin Brodie, Pereira and Dr. Jackson have made a number of experiments upon inferior animals, (and it appears to be poisonous to all animals and

* *St. Il's Therapeutics*, vol. ii, page 353

insects,) and they uniformly found, when aconite was administered, that consciousness and sight were retained long after sensation was lost. Thus Pereira* states that a dog, under the influence of not too strong a dose, will follow his master from place to place, and recognize him by wagging his tail when called, and yet be totally insensible to pricking with needles, pinching, &c. The action of aconite on man is locally, irritant; systemically, powerfully sedative to the nervous system and the circulation, and, in over-doses, a poison. Its influence, therapeutically and physiologically, has been carefully studied by Dr. Alexander Fleming, of Cork, and Professor Schroff, of Vienna. The experiments of the first named were of so exhaustive a character, as to leave but little to be investigated, and were so highly prized, that though an inaugural essay, the University of Edinburgh conferred upon him a gold medal. Dr. Stillé makes the following quotation from Dr. Fleming's treatise:

“FIRST DEGREE OF OPERATION.—In the course of twenty minutes or half an hour after the exhibition of five minims of the tincture of aconite, a feeling of warmth in the stomach is usually experienced, which is occasionally accompanied by slight nausea and oppression of the breathing. After the lapse of thirty or forty minutes, this sense of warmth is diffused throughout the body, and in a few minutes more is attended by numbness, tingling, and a sense of distension of the lips and tongue. There is also tingling at the tips of the fingers, and a peculiar sensation is felt at the roots of the teeth; the feeling of warmth soon disappears, but the numbness and tingling of the lips and fingers continue for a period varying from one to three hours. Slight muscular weakness is generally experienced, with indisposition for exertion, either mental or corporeal. In about half an hour more, the pulse is found to be diminished in strength, and in another hour both the pulse and respiration have become less frequent. Thus, a pulse, which in the normal state beats 72 in the minute, will by that time have fallen to about 64, and the respirations, supposing them to have been 18, to 15 or 16.

“SECOND DEGREE OF OPERATION.—Should a dose of ten minims be given at first, or the dose of five minims be succeeded in two hours by another of equal amount, these symptoms supervene more rapidly and with greater severity. The tingling extends along the arms, and the sensibility of surface is more or less impaired. In an hour and a half the pulse will probably have fallen to about 56 beats in the minute, and become smaller and weaker than before, still maintaining, however, perfect regularity. The respirations will have diminished to about 13, presenting, at the same time, a slow, laboring character. Great muscular debility is now experienced; and giddiness, with confusion of sight, comes

* Pereira's *Mat. Med.*, vol. ii, page 1087.

on when the erect posture is assumed. The individual sinks into a lethargic condition, evinces great indisposition to be disturbed, although he rarely falls asleep, and complains much of chilliness, particularly in the extremities, which are cold to the touch. These phenomena continue in their full intensity from three to five hours, when they gradually disappear, a sensation of languor, which lasts for several hours more, alone remaining. This is the utmost extent to which I would recommend the physiological effects of aconite to be carried, in order to obtain with safety and success its therapeutic action.

“THIRD DEGREE OF OPERATION.—On the administration of five minims more, two hours subsequent to the last dose, the sense of warmth and the numbness and tingling again spread rapidly over the body; the sensibility of the surface is still further diminished; lancinating pains in the joints are occasionally complained of; the headache, vertigo and dimness of vision are aggravated; the countenance grows pale and anxious; the muscular feebleness increases; the voice becomes weak, and the individual is frequently impressed with a dread of approaching dissolution. Occasionally the pulse is reduced still further in strength and frequency, perhaps falling to 40, or even 36 beats per minute, but still maintaining its regularity. More frequently, however, it rises to 70 or 80, and becomes small, weak, and probably more or less irregular. The respiratory movements are also irregular, being either short and hurried, or deep and sighing. The surface is moist, and still further reduced in temperature. Sickness may now come on, and, if formerly present, is much aggravated, and probably attended by vomiting. These symptoms do not entirely subside for one or two days.

“FOURTH DEGREE OF OPERATION.—On the administration of a fourth dose of five minims, two hours after the third, the symptoms assume a more alarming character; the countenance becomes pale and sunken, froth issues from the mouth, and the prostration increases. Some thus affected have stated that they felt as if dying from excessive loss of blood. Consciousness usually remains, or there may be slight wandering delirium, as occurs also after profuse hemorrhage. The voice is whispering, or altogether lost; the pulse becomes still smaller, weaker and more irregular, and the breathing more imperfect; the surface is colder than before, and is covered with a clammy sweat. I have seen patients recover from this state under the administration of proper remedies. When the action of the drug is carried to a fatal extent, the individual becomes entirely blind, deaf and speechless. He either retains his consciousness to the last, or is affected with slight wandering delirium. The pupils are dilated; general muscular tremors, or even slight convulsions supervene; the pulse becomes imperceptible, both at the wrist and heart; the tem-

perature of the surface sinks still lower than before, and at length, after a few hurried gasps, death by syncope takes place."

The practical inferences which Dr. Fleming deduces from a consideration of the action of aconite on the circulation, are as follows :

"1. That it is a powerful antiphlogistic.

"2. That it is calculated to be of great value in all cases where there is an inordinate activity of the circulation.

"3. That it is contra-indicated where there is obvious mechanical impediment to the blood, particularly through the heart or lungs.

"4. That it is contra-indicated wherever there is irritability of the circulation, with great diminution of power, such as occurs after severe venous hemorrhage."

The same peculiarity is presented by aconite as with other narcotics, the dose necessary to destroy life differing in individuals, and even influenced by age and sex. Five grains of the fresh extract, one drachm of the root and eighty drops of the strong tincture of the root, are said severally to have caused death, though cases have been recorded where much larger quantities have been taken without inducing fatal results. In a recent conversation with Professor Parrish of this city, he assured me that he knew of one case where two ounces of Fleming's tincture, (*tinctura aconiti radiceis*,) one of the most concentrated tinctures of the root, were taken by mistake, without a fatal result. The best known antidotes were promptly administered, and life was saved, though several days elapsed before the action of the poison subsided.

The therapeutic applications of aconite are various, and are worthy of careful consideration. Baron Storek, of Vienna, was the first to introduce it to notice in the year 1762. By him it was recommended for the treatment of inflammatory rheumatism, and subsequent investigators have also added their testimony to its usefulness. It has also, in consequence of its sedative virtues, been suggested for the treatment of *inflammations of the brain, angina, pneumonia, bronchitis, idiopathic fevers, inflammatory conditions of scrofula and phthisis, paralysis, amaurosis, neuralgic rheumatism, gout, passive dropsies, amenorrhœa, &c.*

As the design of this paper is to refer to aconite as a dental remedy, I shall pass to the consideration of those diseases where aconite may be advantageously employed.

NEURALGIA.—In the treatment of this distressing affection, aconite will be found to be of great usefulness. Though neuralgia in a part is frequently but the expression of pain dependent on some distant irritation, yet still, numerous cases are recorded where its local application has permanently banished the neuralgic pains. Curtis* details several cases

* Lancet, 1840, 41, ii., 474.

where immediate and permanent relief was obtained from neuralgia of the fifth pair; Tessier,* several of the same sort cured by aconite internally. Dr. Burgess states that aconite has been very efficient in his hands for the treatment of nervous headache.

Besides being an efficient remedy for the treatment of neuralgia, aconite commends itself for the treatment of certain morbid conditions which are almost daily met with in dental practice. Of this class, I would first mention periostitis, or inflammation of the peridontium. In this inflammation, as an auxiliary to leeching or lancing, it will be found to be of great value, as it will greatly aid in terminating the inflammation by "*resolution*." It may be directly applied to the gum over the wound opposite the affected tooth, but great care should be observed that but a very small quantity of aconite is thus applied. If the tincture of the root is used, I place on a pledget of cotton not more than *two* or *three* drops; as absorption will take place very readily from an open wound, and if a larger quantity be used, the characteristic symptoms of poisoning may be induced. Indeed, such a case occurred recently with one of my patients, who, having obtained a half-ounce vial of the tincture of aconite root, was told (for *periostitis*) to put three, or at most five drops on a piece of cotton, to be laid between the affected tooth and cheek. Instead of so doing, she poured out on the cotton what she thought was "*about*" the quantity; as a consequence, all the symptoms described by Dr. Fleming under the head of "Second Degree of Operation," were induced. The symptoms of poisoning lasted nearly a week, though they were greatly relieved by active out-door exercise, wines, and the use of valerianate of ammonia in doses of a teaspoonful three times daily. This case is detailed, for the purpose of calling attention to the necessity of using this agent with caution, and also not to place it in the hands of careless, indifferent or unintelligent persons. As aconite possesses anodyne, antispasmodic and antiphlogistic properties, it is exceedingly valuable for the treatment of inflammation of the peridontium, in cases where lancing or leeching will not be submitted to, the mode of application being to place three or four drops upon a piece of cotton, and place it between the affected tooth and cheek or lip, allowing it to remain. Its sedative influence will be directly exerted upon the nerves in the vicinity, while inflammation will be diminished by its combined action on the circulation. Occasionally violent pain is felt in an alveolus after a tooth has been extracted. If a drop or two of the tincture of the root upon a piece of cotton be introduced into the socket, it will immediately give relief. For pain arising from *exostosis* or hypertrophy of the cementum, aconite may be used with advantage. For inflammation of the dental pulp, previous to the appli-

* Bull. de Therap., xxxiii., 105.

cation of the arsenical paste, I find it to be often of service, as it reduces the existing inflammation, and when the paste is applied, absorption will take place, and destruction of the pulp ensue, which would not occur, were the paste to be first introduced. For this purpose, however, I think it inferior to creasote.

The antidotes to aconite are, the diffusible stimuli, including the ethers and alcoholic liquors, and active exercise. Of the first named class, Hoffman's anodyne, (*spiritus ætheris compositus*, U. S.), in doses of one or two fluid drachms, given in water sweetened with sugar, three times daily, will be found efficient, or the preparation of valerianate of ammonia, as previously referred to, may be administered. Where large doses have been taken, the first indication is to evacuate the stomach. For this purpose, a stimulant emetic, such as mustard or warm oil, with a small portion of ipecacuanha, may be employed.

As the tincture of the root is much stronger than the tincture of the leaves, great care should be used in prescribing them. The following are the doses of the prominent officinal preparations :

Extractum Aconiti, L. or E., $\frac{1}{2}$ grain to 2 grains.

Do. do. Alcoholicum, U. S., $\frac{1}{2}$ grain or 1 grain.

Tinctura Aconiti Foliorum, U. S., 20 or 30 drops.

Do. do. Radicis, U. S., 4 to 7 minims.

Do. do. do. (Dr. Fleming's,) 3 minims.

In prescribing aconite, the smallest quantity should be commenced with, repeating the dose not oftener than every four hours ; the medicine to be intermitted as soon as the characteristic signs of poisoning occur.

COMPENSATION.

BY A. LAWRENCE, D. D. S.

All the forces and events of the universe are unmistakeably regulated by the law of distributive justice. Since the advent of the morphological conception of the universe, the doctrine of "evolution" has taken the place of the notion of a mechanical "creation," and the late discoveries in the world of science has shown that forces are correlative and equivalent, e. g., given—so much heat, an equivalent amount of motion, light, electricity or magnetism may be evolved from it. The idea of the correlation and equivalence of forces, is the inductive manner of stating that an eternal law of justice rules in the physical, mental and moral worlds. The late experiments in science establish a correlation and equivalence between forces. Thus, the fall of 772 pounds one foot, elevates the temperature of one pound of water one degree Fahrenheit. The proved relation in amount

between the affinities of combining bodies, and the heat evolved during their combination—the quantitative connection between chemical action and voltaic electricity already established—the experiments of Faraday, implying that a specific measure of electricity is disengaged by a given measure of chemical action—the demonstrated equivalence between the amount of heat generated and water converted into steam—the known expansion of steam under the influence of each additional degree of heat, all render it certain that, among the various forms of force, the quantitative relations are fixed. And hence the fall of the sunbeams on the earth, finds its correlative and equivalent in the rise of vapor and the consequent fall of the snows, rains and rivers to the earth and into the sea. The silent rush of the planets through the heavens, is but the transformed molecular motion of the original photosphere of the sun. The world of forces obeys the laws of addition, subtraction, multiplication and division, and mind, itself, is a force, or rather the aboriginal source of all forces. Grant a God, an Eternal Infinite Mind, and this correlation and equivalence of forces is but the outer physical *ensemble* of the inherent laws of divine reason, of eternal distributive justice. This law holds between physical and vital, and vital and mental forces. The more mind a man exhibits, the more blood he burns up or exhausts; and the more blood he exhausts, the more food, light, heat and air he requires. And it holds also between the individual and society, between man and men. This law secures that we get from our fellows—what we pay for—no more, no less. It secures that the quack shall be quacked at last, and the longer the credit given, the heavier the interest which will be ultimately required. If he seems to triumph for a time, it is only that his falsehood may lift him to the verge of his ambition, in order to secure his more complete ruin when he falls; and then his social ruin reduces him to his true level, from which he can, if he will, rise to a more elevated station among his fellows. To illustrate: the dentist, if he be merely an artist—merely a worker in *contraband* rubber and mineral teeth—a modern Tubal Cain, and not also a teacher of his patient, instructing how to save teeth from decay—may get his full compensation in dollars for his artifice, but he will not command that utter trust, that moral confidence, that sublime fraternity, which is the true compensation for the work of the soul.

There is a higher form of this law of compensation than that which, for a certain expenditure of professional skill, shall fill one's tills with money. All exist for moral as well as for pecuniary benefits, else they are not men. The professions become grand, sacred, blessed, in just the ratio of their actual power to benefit the world. There is something of a practical immorality in the present relations of the professions to the people. The

physician thrives on sickness, the lawyer on quarrels, and the dentist on decayed teeth. "Let these professions teach the people how to *preserve* health, to *avoid* difficulty, and to *prevent* the decay of the teeth perfectly, and our business would be destroyed," I hear you say. Very well; which is first and paramount, man, or his diseases and the consequent wealth of the professions? Does man exist, that doctors, lawyers and dentists may thrive? Or do the professions arise to save, to preserve, and elevate man? If one affirm the first, all moral dignity and worth depart the professions; but if the second be affirmed, all the professions become the physical and moral regenerators of society—the grandest moral element enters into their career and function, and the compensation for such professional service is a gradually regenerated, beautified, lofty-souled society. Let the people pay us to teach them how to save themselves from the ills incident to a perverted civilization, and we are at once in harmony with all the great interests of mankind and the moral laws of God. The compensation for such relationship is measureless happiness and blessedness. Now it is the financial interest of the physician to have everybody sick, of the lawyer to have everybody in a quarrel, and of the dentist that the people's teeth may rapidly decay. Add the moral law of compensation, and nobody likes the members of either profession named. The people look upon us as "necessary evils." But once let us shift our relations so that we become principally teachers, and incidentally only manipulators, &c., and while the long-continued sins of our ancestors will secure us plenty of patients for some generations to come, we shall yet lay the foundation for a broader and higher professional character, at once consistent with all the laws and interests of man and of society. Nor is this all, since the moral and spiritual laws are primordial, obedience to them secures the highest possible inspiration to genius, talent and intellect. "Talent invariably sinks with character," it must therefore rise with character. Elevate the professions into harmony with the primordial code of nature, which recognizes exact compensation for every act, or failure to act; for every mental effort and aspiration for the highest good, and our professional ranks will be ablaze with genius, with talent and new discoveries. New ideas, a new society will arise upon the world. Great aims alone can quicken genius, and attract it into the centre of social power.

"Moreover, a moral compensation reacheth to the secrecy of thought;
 For if thou wilt think evil of thy neighbor, soon shalt thou have him for thy foe;
 And yet he may know nothing of the cause that maketh thee distasteful to his soul—
 The cause of unkind suspicion, for which thou hast thy punishment:
 And if thou think of him in charity, wishing or praying for his weal,
 He shall not guess the secret charm that lureth his soul to love thee."

LOWELL, MASS.

REGULATING TEETH.

BY DR. C. A. MARVIN.

This is a subject upon which much has been written and said, and upon which much *more* may be written and said, without any fear of exhausting it. As long as the proper care of children's teeth is so little understood, or so grossly neglected by parents; as long as the numerous *known* and the still more numerous *unknown* causes of irregular teeth exist in the world; so long will this branch of dental art possess an ever-new and ever-vital interest to the enlightened members of our profession.

The ability to convert an ill-shaped, deformed, repulsive dental arch into one that shall be pleasing in appearance, useful and comfortable to its owner, is rightfully deemed an evidence of no ordinary skill and competency, while the incalculable benefit thus conferred upon the person so dealt with, is, or ought to be, a powerful incentive to the thorough examination and study of this particular branch.

Without pretending to cover the entire field in one paper, I will state some general principles to be observed in the important operation of regulating teeth.

In regulating teeth, several objects are to be attained, and they are always to be kept in mind throughout the continuance of the operation. They are:

- 1st. The *preservation* of correct facial expression.
 - 2d. The *restoration* of such expression, (if, through the irregularity of the teeth, it has been lost.)
 - 3d. The proper articulation of the teeth for better mastication.
 - 4th. Their orderly arrangement, with a view to the prevention of decay.
- Here is enough for four sermons, but within the limits of a single paper I can only generalize.

Each of the above particulars is of great importance, and no *one* of them must be lost sight of in the endeavor to gain another.

As to the means to be employed to secure the desired end, no particular rules can be laid down. The cases, as they present themselves, vary so greatly, that appliances which would be successful in one case, might be utterly inappropriate in another. The adaptation of means must be left to the ingenuity and judgment of the operator.

One general principle may be asserted, however, which it were well if all dentists would observe, and that is this: *do not resort to extraction for the purpose of giving room to such teeth as are out of position.* This is an error into which many dentists have fallen, and from which have resulted cases of permanent disfigurement beyond the pale of recovery. I do not mean *never* to extract in regulating, for there is no rule, nor

principle, nor condition to which there may not be exceptions; but I do mean that this method should be the very last resort.

Nature makes all the parts to correspond, and when she supplies a certain number of teeth in the mouth, it is fair to infer that the presence of all those teeth is necessary to regularity and perfection. If they are crowded, it indicates that there is unnatural contraction. What is the remedy? Expansion of the parts, of course. And when this is properly done, and sufficient room secured, with all the teeth retained, a symmetry of outline is observed, which is at once pleasing and natural, and which can be attained in no other way. In the most contracted mouth, by commencing with the first molars, and spreading them, then following with the second bicuspid, and so on, in order, to the central incisors, very rarely will any difficulty be found in obtaining sufficient space for such teeth as may stand outside or inside of the proper circle. In doing this, constant regard should be had to the facial expression, that the incisors be not moved so far outward as to give a swollen appearance to the lip. Where there is danger of this result, the bicuspid or molars should be made to furnish the largest share of the space required, as these teeth can be well spread without materially affecting the appearance of the cheeks. Two methods of accomplishing this end are in use, both of which are effectual. One is by fitting a plate to the roof of the mouth, (if the upper teeth are to be regulated,) with broad collars next the teeth which are to be spread. Between these collars and the teeth, wedges of dry pine wood or rubber are to be inserted as tightly as possible, and changed every day; thicker ones being substituted, until the teeth are moved as far as is desired. A second method, and an excellent one, is by making a bow of stiff gold wire, long enough to pass entirely around the teeth, from molars to molars. Fit gold caps accurately to the crowns of the last molars, on each side, and solder the ends of the gold bow to the buccal surfaces of these caps. When this appliance is firmly fixed in the mouth, elastic ligatures passed over the teeth which are to be moved, and attached to the bow, will draw them in any desired direction, and to the requisite extent.

It is, of course, unnecessary to say that, after the teeth are brought into their proper place, a retaining plate must be made, which is to be worn until they are firmly set in their new position. The length of time required for this varies in different cases, from three to twelve months. It is of the utmost importance that this retaining plate should be what I have called it—a *retaining* plate. The teeth which have been brought from an improper to a proper position, should be held there *immovably*, that there may be nothing to prevent the perfect filling up of the alveolus, or tooth socket, closely around the roots of the teeth. If they are allowed to move backward and forward, nature cannot accomplish her

work, and they will not become firm. Attention to these little matters will oftentimes prevent much dissatisfaction to patients, and mortification to dentists.

As to the *age* when art should be called in to aid nature, opinions vary. I say to *aid* nature, by which I mean that this should be done at some stage of the period of *growth*. While a tooth is growing, a very *little* force will change its direction, while much would be required after it is fully developed, and growth has ceased. But if begun *too* early, evil may ensue. Nature will many times, entirely unaided, correct irregularity. To employ artificial means, therefore, in such cases, would be not only unnecessary, but, perhaps, hurtful, by producing unnatural irritation, or by inviting early decay through the friction of metallic appliances upon tender teeth, or by making convenient lodging places for particles of food to remain until partially decomposed. If, on the other hand, the treatment be delayed too long, either or all of the following evils may ensue: loss of some of the teeth in consequence of the too great rigidity of the parts for successful expansion; or difficulty of retaining the teeth in their new position, owing to the more tardy adaptation of the parts, and the slower formation of bony tissue in and around the roots; or the dangerous luxation of the teeth in consequence of prolonged traction, which tends to greater protrusion of the organ.

All these considerations, and many more which cannot here be enumerated, must be borne in mind in determining the proper time to commence the use of artificial means.

The nearest to a rule which I can give, is this: to commence as soon after the necessity is apparent, as the dentist can determine this point, viz: *that the eruption of teeth yet to come, or the subsequent growth of those already erupted, shall not undo his work*; in other words, *when he sees that the teeth he may succeed in regulating, are in no danger of being pressed out of position again by the new and growing teeth, and thus the repetition of the operation rendered necessary*.

The earlier the operation can be commenced, consistently with this caution, the better.

Too great haste should also be avoided. Harsh measures in treating teeth, especially in the mouths of the young, are to be strongly deprecated. Teeth are delicate organs, and if a regard for the feelings of the young patients has no weight with the dentist, (which it certainly should have,) let this thought *have* weight, viz: *an amount of irritation may be produced, which may result most disastrously*. Slow, steady and unremitted motion is proper, but I have no sympathy with the sudden and harsh pulling and prying of teeth from one position to another. Gentleness, *all the gentleness consistent with progress*, should be practiced in *every* operation.

[TO BE CONTINUED.]

SENSITIVE DENTINE—ITS CAUSE AND TREATMENT.

BY DR. W. C. HORNE.

In order to enter intelligently into any method of obtunding the sensibleness of dentine, it is necessary to be acquainted with the structure of that tissue. It would add greatly to the interest and usefulness of dental associations, if a part of their time were devoted to microscopical examinations of sections of teeth. A general lack of information on the minute anatomy of these organs exists, which cannot be too speedily corrected.

The hard structures of the teeth are divided into enamel, cementum and dentine; all possessed of vitality, but varying in their degrees of organization. Dentine is composed of an intertubular tissue, which serves as a matrice for innumerable tubes, commencing at the pulp cavity, from whence they radiate toward the surface of the tooth. In their course through the dentine to the enamel or cementum, they give off branches, which run into one another, and terminate in dilatations at the point of junction between the dentine and the enamel, which they also occasionally penetrate.

The dentinal tubes were supposed to contain only a fluid, until Mr. Tomes demonstrated their occupancy by soft fibrils proceeding from the pulp:* up to that time it was conjectured that the sensibility of the tissue proceeded from pressure of the *liquor sanguinis* back upon the dental pulp. Mr. Tomes very justly shows that sensation is not a property of fluids, and that this hypothesis would entirely fail to account for the variation of sensibility in different parts of the same tooth. Accepting the view that these fibrils are organs of sensation, though not necessarily nerves, and that they supply nourishment to the dentinal structure, we easily arrive at the inference that to their presence is owing its sensitiveness, and to their absence is due the low sensibility of the enamel. Such a conclusion is strengthened by the increased sensibility discoverable at the periphery of the dentine, corresponding in this particular to the general rule that the highest degree of sensibility is to be found at the termination of nerve filaments; while its immediate and total disappearance upon devitalization of the dental pulp may be taken as conclusive evidence.

In a healthy, well-organized tooth, no part of the dentine is exposed, and it is only after the enamel has been penetrated that any marked degree of sensibility is developed. The use of the enamel is to protect the dentine from injury; while, in its turn, it is protected by a structure-

* "That the fibrils proceed from the pulp, may be seen by carefully fracturing a fresh tooth, with as little displacement of the fractured parts as possible, and then, by slowly removing the pulp from its place in the tooth, we shall be enabled to examine the fibrils which have been drawn out from the tubes."—*Tomes' Dental Surgery*, pp. 329, 330.

less membrane, first accurately described by Nasmyth, after whom it is called, and also denominated "the cuticle of the enamel" by Kollicker. It is impermeable to any acid found in the mouth, yielding only to hydrochloric acid. Were this membrane actually, as it is theoretically, continuous over the whole of the tooth surface, it would appear that the dental organs ought by it to be preserved intact. Hence has arisen the supposition that the first predisposing cause of dental caries is a lack of continuity in this membrane; and, secondarily, defects of quantity or quality in the enamel—as the pits or fissures in its surface. If an acid enters the deep coronal fissures, by absorption the enamel will be itself destroyed, and permit the destructive agent to permeate the dentine.

The first step in the progress of decay is a loss of vitality; after which chemical action is set up by an acid condition of the oral fluids; there must be a concurrence of dead dental tissue with the acid. This process, however, does not go on without an effort of vital action in the dentine to repel it, analogous to the effort to arrest gangrene in the soft tissues by the formation of a line of demarcation. If this effort be successful, the dead part of the tooth is separated by the consolidation of the dentinal fibrils within the tubes, rendering the dentine much more dense and impervious, and thus the disease is circumscribed, decay is arrested, the exposed dentine becomes smooth and hard, and the tooth does good service for years. In the great number of cases, however, the consolidation is so imperfect and unequal, as to fail in opposing any effectual barrier to the advance of decay.

The great difference found in the sensibility of dentine, in a variety of cases, is as difficult to account for as other constitutional peculiarities. When very acute, it has been designated as inflamed by some writers; but this cannot be accepted as a correct term, when so many of the distinguishing features of inflammatory action are absent. Where decay has produced a highly irritable state of the dentinal fibrils, it frequently becomes necessary to palliate this condition. Pain is beneficent as an expression of deranged functional activity, and, in the present case, is valuable as an indication of the action of destructive agents. Our efforts should then be first directed to a practical application of such means as we have for allaying the irritability of the structure, which is often an indispensable prerequisite to perfection in the operation of filling.

Of the therapeutical agents in commonest use, creasote or carbolic acid claim the first attention. These escharotics have so powerful an affinity for albumen, that they eagerly combine with it to form a carbolate. This is observed instantaneously on their touching the surface of the mucous membrane of the mouth, and their effect, though not so apparent, is identical upon the dentinal tubuli. They should be applied delicately, and

their effusion into the mouth prevented by stopping the cavity with cotton saturated with a solution of gum sandarach. Their effect, after a few days, is generally such as to permit of excavation, with only a moderate degree of sensation. Nitrate of silver is very effectual in cauterizing flat exposed surfaces. Chloride of zinc, though painful on application, soon diminishes sensitiveness; its first effect may be allayed by chloroform, which is recommended for bathing the walls of cavities. An excellent preliminary to further dental operations is the frequent rinsing of the mouth with lime-water, and rubbing precipitated chalk into the cavities of decay. Sulphate of morphia is often used with success, and is not deleterious, if left for some time in the teeth. When other means fail, arsenious acid may be relied upon for effecting insensibility. It has been extensively used for this purpose, and often with results far beyond what were desired; being so powerful as to penetrate the dentinal tubuli, and communicate its de-vitalizing influence to the pulp. Too much caution cannot be observed in its use.

The simplest means are often the best, and no more satisfactory results have been attained than by simply filling deep-seated or more shallow cavities with some temporary material. The various preparations of rubber, and bone filling, (oxy-muriate of zinc,) answer excellently for this purpose, affording an opportunity, by exclusion of exciting causes, for the action of the conservative processes of nature, manifested, in the organs under consideration, by consolidation of the dentinal tubes and the deposit of secondary dentine by the external cells of the pulp. Such cases have come under the observation of every intelligent practitioner, and need no examples to sustain them. Constitutional conditions undoubtedly affect the condition of the teeth, and go far to determine the means and possibilities of their successful treatment. The experience and evidence presented on this branch of the subject is at present far too limited to form a reliable basis for operation. We have the whole of this field open before us, inviting competitive investigation. Doubtless the laborers in it will be amply rewarded.

NEW YORK CITY.

FILLING APPROXIMAL AND CERVICAL CAVITIES.

BY DR. C. E. FRANCIS.

These are usually considered among the most difficult of cavities for a dentist to fill, and his ingenuity, patience and temper are often taxed to their utmost tension in his efforts to make such operations perfect. The almost inaccessible position of many of these cavities; the insufficiency of light when they are located on the posterior surface of some of the molars; the excessive flow of saliva, frequently gushing with a perfect deluge from

the several ducts: the nervous, restless manner at times exhibited by the patient, together with various other perplexing difficulties that occasionally occur, all tend to baffle the best efforts to make our operations as perfect as could be desired. With those who make an unscrupulous use of the file, or deal by the wholesale in plugs of amalgam, the difficulties referred to are easily conquered; but where plugs of pure solid gold are to be introduced, and the original contour of the teeth preserved or restored, the case is different; and we must prepare ourselves as well as possible to meet and overcome these difficulties.

To be practical, let us refer to a few cases with this point in view. We will suppose a cavity to be located either on the anterior or posterior approximal surface of a superior bicuspid. Such cases are common. Perhaps the cavities are near neighbors, facing each other. We will commence here. Drive a wedge of orange wood between the two teeth, as firmly as possible; with a chisel or file cut away the jagged edges of each cavity, and, with properly shaped excavators, carefully remove all the decayed dentine. With a spoon-shaped, keen instrument, trim the cervical wall of the cavity thoroughly; now, with small fine-cut files, bevel the edges of the cavities, (so that the plugs will envelope them when finished,) and polish them with small sticks of Lake Superior stone. Drill several retaining points into the solid portion of the dentine, keeping clear of the pulp. If but a thin plate of enamel remains between a cavity and the crown (or grinding) surface, cut it away, leaving a dove-tailed opening. Now withdraw the wedge, and apply "Barnum's sheet rubber dam;" for, to insure perfect success, it is absolutely necessary that the cavity and gold be kept perfectly dry. Even the moisture from the breath, as it condenses upon the metal, will, in a measure, destroy its adhesive properties. Having adjusted the rubber, drive in a new wedge, if required, and you are ready for the operation of plugging. Do you prefer foil? If so, try the *adhesive*, No. 2. Roll, and cut it in small pieces. Commence with the retaining point of the cervical wall most distant from the entrance of the cavity, where the gold should be well packed, and a foundation firmly secured. Now, with serrated pluggers, well pointed and impelled by the magic influence of the mallet, consolidate each successive layer of foil, until the cavity is more than full, and the margin of enamel well overlapped. Finish the surface with fine files, corundum tape, Lake Superior stone, ground pumice, or rouge.

For labio-cervical cavities of the incisors, or bicuspids, the sheet rubber can also be used, generally to great advantage, even where the cavities extend beyond the margin of the gum. These cavities are usually quite superficial, and require to be well shaped.

Recently, a professional friend made several attempts to plug such a

cavity, but each time failed, the gold getting damp from the moisture exuding from the margin of the gum. We suggested rubber; but he declared it could not be applied in this case, for the gum had somewhat receded, and the cavity extended beyond the line of enamel. Our assistance being proffered, was accepted. A piece of rubber, about an inch in width by two in length, was procured, and through which a small hole was cut, in circumference a trifle larger than a pin's head. This enclosed the tooth, and as much of its margin as possible was turned towards the alveolus. The portion of rubber above the cavity was drawn firmly against the gum, to be held securely by the fore-finger of the left hand during the operation of plugging. The plug was introduced, with comparatively little trouble, and greatly to the satisfaction of the operator.

In filling cavities on the buccal surfaces of the molars, more difficulty is experienced in adjusting the rubber dam. When impossible to do this, I find prepared *spunk*, which can be obtained at the dental depots, the best substitute. This can be cut in various sized pieces, and readily changed when it gets damp. It absorbs the moisture very nicely. Where this cannot be procured, I would suggest bibulous paper as next in value. Annealing the gold before introducing in the cavity, renders it more adhesive. The first few pieces work best unannealed. Avoid having the pieces too large, lest they choke the cavity, and become insecurely packed.

For more explicit directions concerning the application of "Barnum's dam," I would refer the reader to an excellent article from the pen of Dr. Horne, published in the last number of the DENTAL TIMES.

NEW YORK, December 11, 1866.

QUARTERLY NOTES.

The interval since the last issue of the DENTAL TIMES has been replete with matters of interest to the dentists of the country. Prominent among these is the extensive litigation inaugurated by holders of rubber patents. From all quarters the cry comes up, and we hear of injunctions, summary proceedings, threats and executions, in a mixed jargon which puzzles, if it fails to terrify. With a unanimity as general as it is commendable, the dentists of every locality within our knowledge have associated themselves for mutual defence. They are an honest, hard-working body of men, and, while able and willing to give every one his just rights, are not quite ready to be sold out for the benefit of any company.

Without a claim other than the supposed helplessness of the victim and the richness of the prize, a disgraceful compromise was urged upon the late American Dental Association, having for its object the enrichment of the latest offspring of a monopoly which has become a stink in the nostrils of the nation, to which the dead frogs of Egypt bear no comparison.

The Association was disgraced by listening to any terms, save those of fighting to the end against an imposition so gross. Such was the instruction given to the Commissioners, and had they carried it out, they would have received the support and the applause of the profession ; but, instead, they reported the Cummings patent a swindle, and then ran away in different directions, leaving the Vulcanite Company masters of the situation. These have not been slow to improve their opportunity, laying down, as the conditions of holding their licenses, terms which are repugnant to every manly and professional sentiment. Make haste, Messieurs Commissioners, to deny the part ascribed to you in this arrangement, or else be sure you will be remembered and condemned by your outraged brethren. But what measure of contempt and obloquy shall be poured upon those who fain would sell their fellows for a mess of pottage? May their gold become dross, and their stock food for moths, and let their names be a bye-word and a warning to posterity. Thus may it be to the men who violate professional faith and honor for filthy lucre. The terms and conditions laid down in the license of the company referred to, have never been substantiated by the signature of any officer of the Association ; they were commended by a local influence, whose judgment, to say nothing of interest, was at variance with that of the great preponderance of delegates present, and have been unanimously repudiated by the profession at large. Nothing more impious was ever put upon a body of professional men. Rather abandon the use of rubber than submit to it. Meantime, let every dentist in the land unite in an effort which shall rebuke and disappoint the plotters of this Dental Vulcanite Company.

When the local struggle has given place to the general engagement ; in other words, when the trial of the validity of the patents shall have been carried to the Supreme Court of the United States, we would urge upon every dentist in the country to unite in a common cause, for self-protection and defence.

Recurring to the annual gathering in Boston, (and let us hope, in parenthesis, that there will be no snare laid for us in Cincinnati,) the Code of Ethics there adopted does not commend itself to the requirements of the day. The wisdom of urging matters of local origin and extraneous interest upon this delegated body, is more than questionable ; the Association has no power to enforce such laws, and meddling where it has no authority, is likely to breed contempt. Let us hope that no more of this class of special enactments will occupy the time, so unfortunately, of a body whose deliberations should be purely scientific ; and when we talk science, let us not run mad on speculation.

An unwonted interest has lately been aroused in microscopical studies of the dental organs, directly traceable to the sharp passages at arms

between two well-known writers. This controversy has been narrowed down to the question, puzzling to some—Do the dentinal tubules cross the interglobular spaces, or do they underlie or overlie them? Some smart fellow proposes to settle the doubt by obtaining a transverse section, of the thickness of the tubules. Possibly a longitudinal one might better answer the purpose. How unfortunate is it, that owning a fine microscope does not make a man a microscopist. It is to be hoped that the new Committee on Histology will elucidate the subject in their annual report.

We had confidently expected, ere this, to have received from the Publication Committee the Transactions of the American Dental Association. This work was placed in the hands of a committee on the spot, to insure an early issue. Present appearances point to a repetition of the *fiasco* of last year. Perhaps by another year the Association will be satisfied with a briefer report, which shall also be more prompt in its appearance.

Anæsthesia, in its latest phase—Dr. Richardson's local application is eliciting attention in the dental colleges, and at the hands of private practitioners. It may be premature to decide upon its merits for dental purposes, as it has not yet been extensively tested, though it has proved of undoubted advantage in other departments of minor surgery. The enthusiasm with which it is recommended for the de-vitalization of exposed pulps, and allaying sensitiveness of dentine, by no-wise "timid" practitioners, is refreshing. The profession will hold itself indebted to Dr. G. T. Barker, for his valuable work on Nitrous Oxide, as a candid and trustworthy manual, indispensable to every dentist who would be informed of the nature and effects of this agent.

We cannot forbear to notice that both the volume just spoken of, and the excellent instructions of Dr. Wildman on Manipulating Hard Rubber for dental purposes, have emanated from Professors in the Pennsylvania Dental College. The fact augurs well for the institution in which they teach.

My attention has recently been directed to the curious effects of nitrous oxide, which may be thus described: A Western friend has lately been going into "gas," and thinks so much of it that he inhales as much as he administers. The funniest of all the fun is, that he writes for a certain journal while under its effects, and by turns plays Merry Andrew and scold; and, to beat all, his articles have pleased the proprietor so much as to have obtained for him the editorship.

The progressive spirit of the day manifests itself in the general desire for an advanced stage of educational acquirement in our profession. The seed sown through many years of discouragement now begins to bear fruit. Since the day when the first dental college was instituted, with two pro-

fessors and one student, through the intervening years which have brought into existence several others, the pioneers have found their labor arduous and their reward uncertain. The classes of the present winter, which far exceed those of any former year, must give satisfaction, at least, to those who have borne the heat and burden of the conflict, which has resulted in making a dental collegiate education indispensable to the young men who are daily entering practice.

An association, comprising the faculties of the Baltimore, Ohio, Pennsylvania, Philadelphia and New York Dental Colleges, has been formed during the autumn, having for its object the adoption of a common base of requirements for graduation from these institutions, which, if lived up to, must go far toward removing all temptations to ungenerous rivalry, and secure mutual regard and respect.

The present aim of our colleges should be to make a diploma a necessity to every practitioner of dentistry; and this object is to be reached, not alone by graduating young men just beginning their career, but by judiciously conferring the same title upon practitioners whose works have proved them worthy of all the honor or distinction the title of D. D. S. can bestow; but who, at the same time, may be unable, at this late day, in the full pursuit of professional duties, to devote their time to hearing lectures on subjects they may be themselves qualified to teach. Such a course would be advantageous to the colleges, and redound to the best interests of the profession.

The nurseries of the dental colleges are the dental societies. These are steadily increasing in numbers and in power. They are so frequently in session, that their influence is exercised continuously, and it is controlling upon large numbers; they have accomplished much good. The proceedings of these bodies are often of great interest, and while they serve to disseminate advanced views of the theory and practice of dental surgery, they also perform a hardly inferior office of inducing a professional *esprit du corps*, which cannot be too highly valued. Without vain-glorying, may we congratulate ourselves upon the dawn of the day when something beside skillful manipulation will be taken as the highest criterion of excellence among dentists. Those alone who appreciate the importance of scientific attainments, can secure for themselves a high standard in the future.

Taking a rapid survey of contemporaries for the past year, we feel that the TIMES may congratulate itself on the comparison. A large, and in some a preponderating, portion of their space is occupied by selected matter; the reason for the selection being often very dubious, the scissors having apparently usurped all the editorial functions. Reports of dental societies, too, abound; if well prepared, these discussions doubtless fur-

nish interesting information to a large class of readers, serving also to mark the steps of advance in different particulars. But why so many pages should be devoted to the announcement that Drs. (?) So and So were present, and having met in doubt parted in confusion, is more than we can account for on any known principle of editorial management. Many of the original contributions are of a practical nature, and valuable; those of a scientific turn sometimes fly over the heads of the readers so wildly, as to leave room for the inquiry whether the writers knew what they were aiming at. The fact cannot be gainsaid, that the mass of the contributions to our current dental literature are slovenly in the extreme, even when they have claims to consideration for the value of their suggestions. Editors sometimes revolve in very eccentric orbits, exhibiting a capacity for "pitching in," which is amusing to lookers on, who fail, however, to discover anything profitable or dignified in their aberrations.

We notice, in various quarters, a disposition to enlarge the sphere of the dentists' operations, by including all surgical operations necessitated by diseases connected with the mouth. There can be no objection to any one's pursuing the study or practice of general surgery, who so desires; but there is a large enough field for investigation left within the proper range of dentistry to employ the abilities of our ablest men. Ours is a specialty, confined by its name and nature to the dental organs, and we may as well enter into the general practice of medicine as of surgery, because the condition of our patients happens to require general treatment.

More anon.
Yours,
UNKNOWN.

Editorial.

THE TIMES presents its usual yearly greeting, and wishes to all its readers a Happy New Year, and many returns. At the commencement of a new year it is always of advantage to take a retrospective view of the past, and make provision for improvement in the future. In performing this review, we feel proud of what this journal has accomplished, and we earnestly express our thanks to our many contributors who have so generously aided us in our efforts to make the DENTAL TIMES a necessity. Of the editorial corps, but a brief notice is required, as their efforts in the past are but indications of what they will perform in the future. Professor Buckingham will continue his articles on different metals, with their applications to dentistry. Professor Wildman will contribute still further on the subject of Caoutchouc—essays which have attracted marked attention in this and other countries.* Professor Truman will, as heretofore, bring to notice valuable suggestions in operative dentistry, while the

writer proposes to take up for consideration the various therapeutical agents indicated in dental disease; the present number containing the first of the series on Aconite. Of our contributors, we would remark that this number may be considered an indication of their ability as writers; for where could be found more able essayists or practical workers than Drs. Lawrence, Marvin, Francis or Horne? These, and others as worthy, we hope often to introduce to our readers. Our "unknown" correspondent promises to favor us with Quarterly Notes. His arrows, though shot with boldness and fierceness against error and injustice, will never be poisoned with malice, while there will be complete avoidance of unprofitable personalities. As this gentleman, (a member of the profession in a distant city,) is one who keeps "his ears and eyes open," we expect that his quarterly communications will be both entertaining and instructive.

As this journal is so intimately connected with the success of the Pennsylvania College of Dental Surgery, we cannot refrain from stating that this institution does not, as yet, feel the weight of accumulated years, but that the class the present session is larger than that of any previous one. That the *TIMES* has done much to accomplish this result, must be evident to all. In closing this brief notice of our present and future prospects, we ask our friends not only promptly to return their own subscriptions, but to aid us in so extending the circulation of this journal, that we may continue to represent the advancement and interests of the dental profession.

G. T. B.

THE DENTAL PROFESSION vs. RUBBER PATENTS.

WE devote considerable space, in this issue of the *TIMES*, to the question that is now agitating the profession to a very considerable extent—that of the validity of the Cummings and Goodyear's patents. Whether these patents can be sustained, or whether they are worthless, remains yet to be solved by the courts; and until this is done, and a decision rendered by the Supreme Court of the United States, it seems to us to be the true policy to refuse to settle with the "Goodyear Vulcanite Company" for past work, or to enter into any obligations for the future.

The feeling appears to be almost unanimous in the profession that the claim of Cummings to have originated the use of rubber as a base for artificial teeth, to be not only a pretension, but an attempt at wholesale swindling under the cover of law. Whether this feeling is warranted by the facts, remains yet to be proved; but that it exists almost universally, is some indication that his portion of the claim, at least, cannot be sustained.

At the Boston meeting of the American Dental Association, the subject of a settlement with the holders of these patents, termed the "Goodyear

Vulcanite Company," was prominently and persistently introduced by certain parties, who finally succeeded in procuring the appointment of a committee to confer with the Vulcanite Company, with power to adjust all claims. They concluded upon terms of settlement, a copy of which is appended. That the Convention exceeded its powers in appointing any committee for such an object, there can be no two opinions. The delegates were not clothed with any such authority by the associations that sent them to that body, and had they been so delegated, their action could have no binding effect on the profession at large. In our opinion, the Convention in treating with the company in the manner they did, or to even allow the subject to be introduced, sacrificed the dignity that should always belong to such bodies. We would not be understood to favor that false dignity that would refuse to receive information, or to examine any model or improvement, because the individual may have received a patent for it; but we do condemn the chaffering with a company who back up the application for a committee with a threat that thus and so must be done, or more will be demanded. That this committee was formed by direct application from the company, we do not pretend to assert; but there is strong presumptive evidence that such was the fact. But whether true or not, the discreditable fact still remains, that a committee was appointed to make the best terms possible. But few members of the profession but have felt annoyed and chagrined at the action of that body. It has been stated, and very generally credited, that a portion of that committee were directly interested in the stock of the Vulcanite Company. Whether this very general feeling has any foundation in fact, we have no means of determining; but we do say, that if the next meeting of the American Dental Association fails to sift this matter to the bottom, they will deserve and receive the condemnation of all right thinking men. Any member of that Convention that can be proved to have any connection with the Goodyear Vulcanite Company, should be unceremoniously expelled, and branded so deeply that the future history of the profession may not be stained by any such record.

The terms that this company require of the licensee are of a character that no one, who entertains the least respect for himself or the profession he represents, should accept. The contract requires the individual, among other things, to furnish a "description of all plates or parts of plates, and the *names and residences of the persons to whom furnished, and the dates when furnished.*" Is there any member of the profession that would voluntarily sign such a gross violation of the privacy of professional practice as this? It has become a rule, that should have no exceptions, never to speak to others of any operation, so that the individual operated upon can be recognized, and this is eminently proper. All persons are, in

greater or less degree, sensitive to anything that affects them personally, some, perhaps, unreasonably so; and in nothing is this feeling more apparent, than the use of artificial teeth. If it is contrary to all professional good breeding to do this incidentally to a stranger, how much more so to furnish a written quarterly report to these meddlers in other people's business, and allow them free information on this most delicate point? Rather than submit to this degrading requirement, it would be far better to return to the use of gold, silver and platina as a base for artificial teeth. The feeling may be that we have gone too far into the use of rubber to accomplish this, and such may be the fact; but patients generally take the advice of the trusted counselor, and there need be but little difficulty in convincing them to their best interests. Many dentists have adopted this course, and not from any fear of courts and juries, but from a conviction that rubber for general use has proved, if not a failure, at least far inferior to the old modes of mounting teeth. Let the decision of the courts result as they may, we think this feeling must increase among those who have the best interests of the profession at heart. That rubber has degraded dental mechanism, there can be no doubt. We have, growing up among us to-day, young men who go forth to practice, that know little or nothing of plate work, and have but the slightest possible knowledge of all that extensive practice in mechanics that went so far to make up the pupilage of a dental student, before the advent of rubber as a base for teeth. The thought and labor of multitudes of men for years, all goes for nothing to-day, and we have almost returned, as far as mechanical dentistry is concerned, to that period when three weeks study and pupilage were considered sufficient to enable an individual to commence practice. The consequences have been and are deplorable. We may not, in recommending a return to original practice, have hit upon the right remedy; but we do think the period a proper one to make an effort in that direction.

There seems to be a very general determination to resist the claims of the company, and we of this city have organized a committee to take the whole matter in charge, collect moneys to defend all subscribers to the fund, employ proper counsel, &c. To accomplish this, requires ample means, and we would call special attention to the circulars we have issued, and we hope that all parties interested will forward their subscriptions as speedily as possible, and do this whether they have settled with the company or not; for they must bear in mind that this onerous tax is to be levied, with all the conditions, for a period of seventeen years.

The following is a copy of the conditions upon which licenses are granted, and also the contract required to be signed by the licensees:

“By an agreement with a commission of five gentlemen, consisting of Drs. C. W. Spaulding, of St. Louis; E. G. Leach, of Boston; A. Hill, of

Norwalk, Conn.; W. A. Morgan, of Nashville, Tenn.: and J. M. Riggs, of Hartford, Conn., appointed at the last annual meeting of the American Dental Association, with full power to adjust all matters of common interest between the company and the dental profession, the following terms of settlement of past infringements and of licenses for the future, have been decided upon, viz:

“(1.) *Upon prompt settlement*, an entire release, without charge from liability for damages for infringement between June 7, 1864, and May 1, 1865.

“(2.) A discount of 50 per cent. of the rates established for the future to be made for all work done between May 1, 1865, and July 1, 1866.

“(3.) The amount paid on the past to be refunded in equal yearly instalments of 20 per cent. from the amounts that may become due under the license.

“(4.) The tariff after July 1, 1866, to be \$1.00 for each and every part of a plate bearing six teeth, or less, and \$2.50 for each and every plate bearing more than six teeth.

“The mutual agreement, as above set forth, was endorsed by the commission, and, on presentation to the Dental Association, was ratified by that body.

“You will please forward to this office, without delay, a correct statement of the number of plates and parts of plates made by you, or by any person or persons in your employ between May 1, 1865, and July 1, 1866; upon settlement of which claim for the past, the company will issue you a license from the first of July, 1866; by which licensees are required to make returns, and due payment, at the tariff rates, at the end of each quarter, for all work done during that quarter.

“You are hereby cautioned against infringing upon the rights of the company, by using rubber for dental purposes without a license.

“Any further information relative to the company, its patents, licenses, &c., can be obtained on application personally, or by letter, to the undersigned, at the office of the company, No. 46 School street, Boston, Mass.

“JOSIAH BACON, *Treasurer.*”

To General Agent Goodyear Dental Vulcanite Company, Boston, Mass.

The following is the record of all the plates and parts of plates for artificial teeth, in which rubber or any allied gum has been used, which I have made, furnished or sold, either directly, by myself, or by any person or persons in my employ, since the ——— day of ——— 186—, together with a description of such plates and parts of plates, and the names and residences of the persons to whom furnished, and the dates when furnished; and I certify, upon my honor, that this record fully represents

all my work in which rubber or any allied gum has been used in any way, for all the time named, and that it is in all respects true.

| DATE. | NAME. | RESIDENCE. | DESCRIPTION. Whether upper or lower set; full or partial plate; and, if partial, how many teeth. |
|-------|-------|------------|-----------------------------------------------------------------------------------------------------------|
| | | | |

The following is the opinion of the counsel of the Americal Dental Protective Society, New York, George Ticknor Curtis :

Dr. T. G. Wait, Chairman of Executive Committee of the American Dental Protective Society, New York :

NEW YORK, Nov. 4, 1866.

DEAR SIR—I have carefully examined the re-issued letters-patent granted to the “Dental Vulcanite Company,” January 10th, 1865, for an invention purporting to have been made by John A. Cummings, and am of opinion :

First. That the subject matter described and claimed in the specification, is not a patentable invention, assuming it to have been first practised by said Cummings. It is, on its face, a patent for making dental plates of vulcanized rubber, or hard rubber, or “vulcanite,” in lieu of gold, silver, platina, or other metal. In other words, it is a patent for making a thing of a substance which the patentee does not claim to have invented, in the place of other substances of which that thing has long previously been made. Mere change of material in making a well-known thing, although the new material may be attended with some comparative advantages, will not support a patent. This patent covers nothing more than such a change of material, and, in my opinion, is void.

Second. That this patent is void, by reason of the following facts : The original application of Cummings, for a patent, on this alleged invention, was made April 12th, 1855 ; was rejected by the Commissioner February 5th, 1856, and no appeal was taken from that rejection. Eight years afterwards, to wit, March 25th, 1864, Cummings made a new application, and thereupon, the original patent, now re-issued, was granted. I have carefully examined the ruling recently made in Boston, by Mr. Justice Clifford, and find that he held this patent to be good, on the ground of a technical continuity of the first application by reason of the second, which the learned Judge treated as having been filed in aid of the first ; and that, therefore, there was no legal abandonment of his invention by Cummings, notwithstanding the interval of eight years, during which

time there were no proceedings in the Patent Office, after a rejection, and during which period the alleged invention had come into public use. I am of opinion, that none of the previous decisions of the Supreme Court of the United States warrant this ruling, and I do not think it will be sustained by that court, if carried before it.

Third. That from the facts which have been laid before me by you and other dentists, Cummings, even if he were the first person to use "vulcanite" in making dental plates, actually abandoned his alleged invention to public use. In the case before his honor, Judge Clifford, which was a final hearing in Equity, all that the learned Judge said on this subject is comprised in this statement: "Actual abandonment is not *satisfactorily proved*." In any new proceeding in Equity, the evidence on this point, if conflicting, may result in an issue to a jury, or it may be passed upon by the court. I am of opinion, that the result of the finding upon this point, in the case heard before Judge Clifford, is not of sufficient weight to deter any one from raising the same question upon the facts which have been submitted to me.

Fourth. That from the facts which are well known to exist respecting the long public use of this alleged invention by members of your profession, in this city and elsewhere, the Federal Courts, sitting in Equity, ought not to grant, and, upon the principles of Equity Jurisprudence as administered in patent cases, will not grant injunctions before a final hearing. If such injunctions are granted, of course they must be submitted to, and the cases must be prepared for a full and final hearing on the merits.

Having understood from you that an association has been formed in this city among the dentists, for the purpose of protecting themselves and each other against the claims advanced by the proprietor or proprietors of this patent, and having accepted a retainer for this purpose, I deem it proper to add that, in my opinion, the case is clearly one that ought to be carried to final adjudication in the Supreme Court of the United States; and that not only your own profession, but the kindred professions of Medicine and Surgery, will render you their moral support in subjecting it to such adjudication.

I have not thought it necessary to cover, in this opinion, any but the most prominent grounds of objection to this patent. There are others which appear to me equally fatal to its validity.

I am informed that suits in equity have been commenced against you and other dentists, in aid of this claim of the Cumming's Patent, upon the Hard Rubber Patent of the late Nelson Goodyear, in the name of his administrator. One of these bills in equity—that against yourself—

I have examined. It sets forth no adjudication in which the Nelson Goodyear Patent has been sustained, against what I believe to be a formidable objection to its validity.

Without going at large into the various defences, which may be made to the claims now sought to be enforced against the dentists, by the proprietors of the Goodyear Hard Rubber Patent, I am prepared to express my opinion, as follows:—

First. That the substance called hard rubber is, according to the specification and claim of the re-issued Nelson Goodyear Patent, produced by a variation in the rule of working originally discovered and patented by Charles Goodyear; and that it is, therefore, extremely doubtful, whether, either in respect to process or product, the making of hard rubber could be the subject of an independent patent. I do not understand that this question has ever been passed upon by any Circuit Court of the United States, and it is certain that it has not been acted on by the Supreme Court of the United States.

Second. That assuming the Goodyear Hard Rubber Patent to be, in all respects, valid, I am informed that it is capable of proof, that the use of hard rubber, in dentistry, in this city, has been notoriously public and free, for a period of eleven years; with the acquiescence of the proprietors of the patent. I am, therefore, of opinion, that as to the use of hard rubber, or of the process of making it, in the art of dentistry, there has been a dedication of it to public use.

Third. That even if the proof should fall short of establishing a dedication to public use, there has been such an acquiescence, that no Court of Equity would be warranted in enjoining its use, before a final hearing.

I am, very respectfully, your obedient servant,

GEO. TICKNOR CURTIS.

Since the foregoing opinion was given, an effort has been made in the Circuit Court of the United States, for the Southern District of New York, to obtain injunctions under the Goodyear and the Cummings Patents. This effort was utterly defeated. Judge Nelson refused to interfere before a final hearing, and said, (addressing Dr. Wait's Counsel):—

“I have no question about the propriety, in the case presented, of giving you longer time to meet the bill, both as respects the Hard Rubber Patent and the Cummings Patent, the latter being a patent which I know nothing about, and have never seen. The only doubt in my mind—the only question which I was pausing about—was, whether, after the great delay in instituting this suit on behalf of the hard rubber patent against this application of it by the dentists, I really ought to interfere by this summary process of injunction. It seems, from the statement, that they

have been in the use of it some eleven years ; and, although I agree that that is no defence to a patent, yet it is a reason, very often assigned, why a Court will not, under circumstances where so long a use has been acquiesced in by the patentee, tie up business by this summary proceeding of injunction, but rather leave the party to go to his proofs and dispose of the case on its merits. That is the only doubt I have now about it."

After further discussion, the Judge finally said :—

"Now, an injunction in this case, whenever it is issued, is not confined to this suit ; it is not confined to any district of the country, it is universal, because this profession extends to every county in the Union, and they have been using it for a long time. I don't say that their using it for so many years removes their responsibility at all ; but then it deeply affects extensive interests, and I am not disposed to be precipitate where such is the case ; on the contrary, I am rather inclined not to act upon it until the question is finally decided, and when an injunction would be an end of the case."

CIRCULAR OF COMMITTEE APPOINTED BY PHILADELPHIA DENTISTS.

DEAR SIR :—At a meeting of dentists and others interested, held in Philadelphia, on Tuesday evening, November 27th, the undersigned were appointed a committee to solicit contributions to a fund, to be created for the purpose of testing by law the equity of the claims now being made by parties holding patents, by which they assume to control the use of hard rubber or vulcanite, so far as the same is applicable to dental purposes.

Believing that these claims are neither just nor legal, we propose in protecting the rights of the dental profession, to employ able counsel, and an expert to collect testimony and make a more thorough investigation and defence than isolated individuals defending for themselves can afford.

The settlement of these questions will affect the interests of nearly every member of the profession in this country. If you desire to have a thorough investigation, you are invited to co-operate by *remitting immediately* the amount you are willing to contribute for the purpose. Contributions have been received in this city ranging from ten to one hundred dollars.

The committee have full power to collect funds and employ counsel according to their best judgment, but are not expected to take any action in the matter, until a sufficient amount of money to meet the necessary expenses shall have been deposited in their hands.

When, by reason of success or failure, we shall decide that further action is unnecessary, the amount, if any, remaining in our hands, shall be distributed to the contributors, *pro rata*, accompanied by a report of the disposition made of the funds.

Contributions will be received and acknowledged by any of the committee.

DR. JAMES TRUMAN, 1221 Spruce street, Philadelphia.

DR. LOUIS JACK, 1102 Arch street, “

DR. C. A. KINGSBURY, 1119 Walnut street, “

DR. ISAIAH LUKENS, 827 Arch street, “

W. A. DUFF, 516 Arch street, “

JOHN R. RUBENCAME, 825 Arch street, “

SAMUEL S. WHITE, Chairman, 528 Arch street, Phila.

Philadelphia, Dec. 11th, 1866.

PROCEEDINGS OF DENTAL ASSOCIATIONS.

At a special meeting of the NORTHERN OHIO DENTAL ASSOCIATION, held at Cleveland, October 11, 1866, it was

Resolved, That the Northern Ohio Dental Association ignore the claims of the “Goodyear Dental Vulcanite Company,” as set forth in their circular recently issued to the profession. Believing it to be an extortion, we will render to any and all dental societies and associations our cordial co-operation in any endeavor they may undertake to defend themselves, or any member thereof, against the enforcement of this extortionate demand.

Resolved, That the Secretary be requested to send copies of the above resolution to other societies and associations.

B. F. ROBINSON, *President N. O. D. A.*

W. P. HORTON, *Secretary.*

At a meeting of the OHIO STATE DENTAL ASSOCIATION, held at Columbus, November 1st, it was resolved that the dentists of Ohio refuse to accede to the demands of the Goodyear Dental Vulcanite Company of Boston.

At a meeting of the CENTRAL OHIO DENTAL ASSOCIATION, held at Zanesville, November 13th, it was resolved to endorse the doings of the State Association, and each dentist present at each association gave one hundred dollars, and some gave one hundred and ten dollars, to assist those who might be prosecuted.

It will be seen by the following extract from the Associated Press despatches, that the question has been brought before the Supreme Court, at Washington:—

THE UNITED STATES SUPREME COURT.

Chief Justice Chase gave his decision to-day in the cases of Josiah

Bacon against Thomas G. Hills, and Henry Goodyear against O. A. Daily. In these cases the complainants—the former being the owner of the Cummings patent, and the latter of the Goodyear patent—ask for an injunction restraining the defendants from using vulcanized rubber for making artificial gums and plates for teeth. He denied the injunction in the first case, and granted a temporary injunction in the second case, subject to removal at any time when the parties shall give reasonable security for the payment to the complainant for such use as they may make of it.

J. T.

THE dental profession of North Carolina are making a praiseworthy effort to elevate the standard of dentistry in that State, and have introduced a bill for adoption by the Legislature, which requires every one who commences dental practice in that State, after the first of January, 1867, to be a graduate of a recognized dental college. Those who are now in practice, not graduates, are, by the provisions of the bill, required to submit to an examination by a regularly appointed examining board of the State Dental Society. We wish the pioneers in this advanced movement hearty success. The next meeting of the North Carolina Dental Association will be held at High Point, the third Wednesday, Thursday and Friday of June next. The officers of the present year are as follows:

President—B. F. Arrington.

Vice-Presidents—R. P. Bessent, J. W. Hunter.

Recording Secretary—R. D. Fleming.

Corresponding Secretary—V. E. Turner.

Treasurer—M. R. Banner.

Executive Committee—J. W. Howlet, J. H. Wayt and J. O. Moore.

The well-known character and reputation of the gentlemen connected with this movement, will doubtless insure its successful accomplishment.

G. T. B.

WE are under many obligations to Mr. Wm. M. Hunt, of Waterloo, Seneca County, N. Y., for several valuable skulls of the orders *Rodents* and *Carnivora*. We hope the example of this gentleman will be followed by others, as it is very desirable to have a collection of the teeth of all the inferior orders, accessible to students. We would, therefore, be exceedingly gratified for specimens of animals from any quarter. J. T.

WE have received from S. S. White a package of Roach's nerve extractors, which, in many respects, we consider superior to those in use. With some improvements suggested to the manufacturer, we think they will be unequalled for the purpose intended.

J. T.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

THE ELVENTH ANNUAL SESSION, 1866-'67.



TRUSTEES.

| | |
|----------------------------|--------------------------|
| HENRY C. CAREY, PRESIDENT, | GEORGE TRUMAN, M. D., |
| W. L. ATLEE, M. D., | S. DILLINGHAM, D. D. S., |
| DANIEL NEALL, D. D. S., | G. R. MOREHOUSE, M. D., |
| ELLESLIE WALLACE, M. D., | THOMAS WOOD, |
| BENJAMIN MALONE, M. D., | J. R. McCURDY, |
| W. W. FOCHE, D. D. S., | CHARLES HAMILTON, SEC'Y. |

FACULTY.

J. D. WHITE, D. D. S.,
EMERITUS PROFESSOR.

T. L. BUCKINGHAM, D. D. S.,
PROFESSOR OF CHEMISTRY AND METALLURGY.

E. WILDMAN, M. D., D. D. S.,
PROFESSOR OF MECHANICAL DENTISTRY.

G. T. BARKER, D. D. S.,
PROFESSOR OF PRINCIPLES OF DENTAL SURGERY AND THERAPEUTICS.

W. S. FORBES, M. D., D. D. S.,
PROFESSOR OF ANATOMY AND PHYSIOLOGY.

JAMES TRUMAN, D. D. S.,
PROFESSOR OF DENTAL PHYSIOLOGY AND OPERATIVE DENTISTRY.

EDWIN T. DARBY, D. D. S.,
DEMONSTRATOR OF OPERATIVE DENTISTRY.

J. M. BARSTOW, D. D. S.,
DEMONSTRATOR OF MECHANICAL DENTISTRY.

The Lectures to the Regular Course commence on the 1st of November and continue until the 1st of March.

During the last two weeks of October, preliminary Lectures are delivered, one each day.

The Rooms for Operative and Mechanical Dentistry are open from the 1st of October and throughout the session, under the supervision of the Demonstrators.

The Dissecting Room, under the superintendence of the Professor of Anatomy and Physiology, is open during the session.

| | | |
|---------------------------------------------------------------|------------------|--------------|
| Fees for the Course, (Demonstrators' Ticket included,) | - | \$100 |
| Matriculation, (paid but once,) | - - - - | 5 |
| Diploma Fee, | - - - - - | 30 |

T. L. BUCKINGHAM, Dean,

C. P. REESS, Janitor.

243 North Ninth St., Philadelphia.

P. S.—Board may be had at from \$3.50 to \$6.00 per week.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

The Eleventh Annual Session, 1866-'67.

The eleventh annual session of the Pennsylvania College of Dental Surgery will commence on the first of November, and continue until the first of March. Preliminary lectures will, however, be delivered each day during the latter half of the month of October. The Dispensary and Laboratory of the College will also be open from that time, where ample opportunities will be afforded for the prosecution of the practical part of the profession under the daily supervision of the Demonstrators, who are gentlemen of known integrity and thorough capability. During October, as well as the entire session, a clinical lecture will be delivered, and operations performed by one of the Professors every Saturday afternoon..

The course is so arranged that fifteen lectures are delivered each week, on the various branches taught in the school. A synopsis of the manner in which each department is treated will be found under the head of the different chairs.

These lectures occupy about the average time of three hours each day.. In addition, four hours are daily spent by the student in actual practice.. With this object in view, the operating rooms are furnished with twenty chairs, so arranged as to command the best light, and all the appliances necessary for comfort and ease. To these chairs the students are assigned in classes, and certain hours are fixed for each member of the class to operate.

Each student is required to provide his own instruments, (except those for extracting,) and to operate with them. He is expected to keep them in perfect order, and for that purpose is provided with a table in which they can be locked up when not in use. As the operations performed at the College are entirely gratuitous, a superabundance of patients invariably present themselves.

In the mechanical department, every process known in the profession, which has any value to the mechanical dentist, is fully taught; and receipts of valuable compounds are freely imparted. All the conveniences are at hand in the Laboratory for the preparation of metals, manufacture of teeth, (single and in blocks,) mounting, etc.; and the student is required to go through all the necessary manipulations connected with the insertion of artificial teeth—from taking the impression to the thorough construction of the denture, and proper adjustment of it in the mouth of the patient.

In addition to the facilities afforded by the College for a thorough course of instruction in the theory and practice of Dentistry, the celebrated hospitals and clinics of the city constantly enable the student to witness.

various important surgical operations which are highly interesting and instructive. The medical and surgical clinics of the Blockley Hospital, in particular, one of the largest eleemosynary establishments in the world, are open to Medical and Dental students, free of charge. The staff of this institution is composed of some of the most eminent physicians and surgeons of Philadelphia.

COURSE OF LECTURES.

CHEMISTRY AND METALLURGY.

The course of instruction from this chair will commence with the consideration of the imponderable substances.

The laws that govern the imponderable bodies will next claim attention, with some notice of symbols or chemical notations. Individual elements, and the compounds resulting from their combinations, will then be considered. Organic chemistry will receive its full share of attention.

The course will be illustrated by diagrams and such experiments as can be performed before the class.

DENTAL PHYSIOLOGY AND OPERATIVE DENTISTRY.

The lectures in this department will embrace the Physiological Anatomy of the teeth, general and microscopical, in addition to a minute and careful description of the various operations performed by the dental practitioner.

The microscope, models and diagrams, will be employed in illustration.

At the Clinic the incumbent of this chair will also demonstrate before the class the various operations described in his course of lectures.

MECHANICAL DENTISTRY.

The instruction from this chair will embrace the entire range of manipulations legitimately connected with the laboratory, arranged in two divisions—Mechanical Dentistry proper, and that to which has been applied the appellation of the Plastic department.

I. *Mechanical dentistry proper* will include everything appertaining to the construction of dental substitutes, passing through the different stages of preparation, from taking the impression, to the completion and proper adjustment of the case in the mouth, conjointly with features, expression of countenance, enunciation, etc. It will likewise embrace the metallurgic treatment of the various metals employed, the preparation of plate and wire, the alloying of gold, together with the *alloys* used, as well as those designated as solders.

II. This division will comprise all that appropriately belongs to the manufacture of porcelain or mineral teeth—single teeth, block-work, continuous gum-work, vulcanite, etc. The materials, their preparation, compounds and uses, will be specially regarded.

All new inventions, modifications, and improvements, in this branch of the art, will in place receive due attention and investigation.

PRINCIPLES OF DENTAL SURGERY AND THERAPEUTICS.

The lectures delivered from this chair will embrace General Pathology, Dental Pathology, the Pathological Relations of the Teeth to other parts of the System, together with a minute description of all special diseases that have any relation to Dental Surgery, or of interest to the Dentist.

They will also include a careful examination of therapeutic agents and their general application. Their indications in the medical and surgical treatment of diseases of the mouth, both idiopathic and symptomatic, will be fully illustrated, and also the general hygienic rules and principles which come within the province of the practitioner.

ANATOMY AND PHYSIOLOGY.

The instruction in this department will embrace a plain and comprehensive view of the structure and functions of the Human Economy. The valuable anatomical preparations of the incumbent of this chair, (consisting of Papier Mache manikins, models in wood, drawings, wet and dry preparations,) will enable him to fully illustrate his course. With the same object, vivisections on the lower animals will also be employed.

The special relations of this branch to the wants of the dentist will be kept steadily in view, and such descriptions of the natural history, microscopical structure, connections, &c., of the teeth, as their importance demands, will be given.

The great facilities for the study of practical anatomy, to be found in the city of Philadelphia, obviate the necessity of providing a dissecting-room in the College. For the usual fee of \$10, the student can have access to one of several well-ordered and well-supplied dissecting-rooms.

QUALIFICATIONS FOR GRADUATION.

The candidate must be twenty-one years of age. He must have studied under a private preceptor at least two years, including his course of instruction at the College. Attendance on two full courses of lectures in this institution will be required, but satisfactory evidence of having attended one full course of lectures in any respectable dental or medical school, will be considered equivalent to the first course of lectures in this College. Also satisfactory evidence of having been in practice five years, inclusive of the term of pupilage, will be considered equivalent to the first course of lectures. The candidate for graduation must prepare a thesis upon some subject connected with the theory or practice of dentistry. He must treat thoroughly some patient requiring all the usual dental operations, and bring such patient before the Professor of Operative Dentistry. He must, also, take up at least one artificial case, and after it is completed, bring his patient before the Professor of Mechanical Dentistry. He must, also, prepare a specimen case to be deposited in the College collection. The operations must be performed, and the work in the artificial cases done, at the College building. He must also undergo an examination by the Faculty, when, if found qualified, he shall be recommended to the Board of Trustees; and, if approved by them, shall receive the degree of Doctor of Dental Surgery.

Candidates for graduation who have not attended lectures.—Dentists who have been in continued practice since 1852 are eligible to be candidates for graduation without attendance on lectures. The candidate for graduation must present satisfactory evidence of his having been in practice for the allotted time, also of his good standing in the profession, he must prepare a thesis upon some subject connected with the theory or practice of dentistry. He must present specimens of his workmanship. He must undergo a satisfactory examination by the Faculty, when, if qualified, he shall be recommended to the Board of Trustees, and if approved by them, shall receive the degree of Doctor of Dental Surgery. Of this class of graduates, the matriculation and diploma fees only are required.

TEXT BOOKS AND WORKS OF REFERENCE.

Wilson's, or Leidy's Sharpey & Quains' Anatomy; Carpenter's Physiology, or Dunglison's Human Physiology; United States Dispensatory; Mitchell's Materia Medica; Fownes' Elements of Chemistry; Regnault's Chemistry; Lehmann's Pysiological Chemistry; C. J. B. Williams' Principles of Medicine; Wood's Practice; Tomes' Dental Physiology and Surgery; Harris' Principles and Practice; Taft's Operative Dentistry; Richardson's Mechanical Dentistry; Paget's Surgical Pathology, or other standard works on the subject.

FOR SALE.

THE SUBSCRIBER FOR OFFERS SALE HIS

PORCELAIN TEETH

MANUFACURING ESTABLISHMENT,

INCLUDING A

Large Stock of Moulds of very Desirable Patterns,

Body and Enamel Spar of an extra quality,

Carefully selected and broken up,

A Tin Machine, French Burr Mill, Receipts,

And, in short, everything necessary for a **SUCCESSFUL PROSECUTION OF THE BUSINESS.** Any party wishing to engage in the business will find this an opportunity seldom to be met with.

For further particulars, enquire on the premises, or address the subscriber, by letter.

GEORGE HANNAH,

435 Main Street, Poughkeepsie, N. Y.

January 1, 1867.

THE DENTAL TIMES.

VOL. IV.

PHILADELPHIA, APRIL, 1867.

No. 4.

ON THE ARTICULATION AND ARRANGEMENT OF ARTIFICIAL TEETH.

BY W. H. TRUEMAN, D. D. S.

A Paper read before the Pennsylvania Association of Dental Surgeons.

In order that we may have an accurate idea of what is required to produce a natural articulation or antagonism of artificial teeth, it perhaps, will not be out of place to call your attention *briefly* to the various motions of the lower jaw, and the muscles which produce them. For, unless we perfectly understand the natural action of these useful organs, our attempts to replace them will be attended, at best, with but uncertain success. I do not, for an instant, presume to teach you anything new on this subject ; but only refer to it as a foundation on which to build my remarks, or, perhaps, more correctly to establish landmarks by which to guide thought and locate ideas.

The lower jaw of man is possessed of three positive motions,—the upward and downward, extension and retraction, and lateral motion ; and these are united together, to give the various movements of mastication. All of these movements are very much exaggerated when the patient has been some time without teeth, as no doubt many of you have found to your sorrow. This is caused first, by the loss of some fixed point of rest for the lower jaw ; and secondly, to the loss of tonicity in the integuments, which takes place at the age the natural organs are mostly lost.

The lower jaw is drawn upward by the contraction of the temporal, aided by the masseter muscle ; these are counteracted by a number of small muscles, situated at the anterior aspect of the neck. The sliding, and also the lateral motion, is produced mainly by the two pterygoids of either side, which are so constituted as to act in concert or alone. Mastication is performed principally by the rotation or the triturating motion, the opening and closing of the jaws being accessory or preparatory to the final and most important act of preparing the food for reception into the stomach ; and therefore the bicuspid, and especially the molars, become, in this operation, the most useful occupants of the dental arch ; and in

replacing them, we should always endeavor to give them all the liberty and stability possible. In this connection, allow me to call attention to the tongue, as an important organ of mastication; for it is mainly to the efforts of this useful member that the food is kept between these efficient mill-stones with which nature has provided us. How important it is then, to give it plenty of room in which to work without irritation or constraint; and how often is this point neglected.

- Artificial teeth are required for two purposes, beauty and comfort, or use and ornament; and he who would successfully apply them, must constantly bear in mind these two important considerations, ever remembering that although utility is the great object sought, yet appearances must not be too much ignored. The mind is often more *sensitive* than the body; the patient must be *pleased* before we have attained perfect success.

The proper mastication of the food (next to getting it,) is the most important action on which the health and well-being of man depends; for if this be neglected, digestion is impeded, nutrition impaired, health, happiness, and even life itself, is soon destroyed. It should, therefore, be our object to so adapt our work as to enable the patient, with ease and comfort, to use them freely in mastication. Next to a good fit, nothing contributes more to this than a perfect *articulation*. On this subject I desire to offer a few suggestions.

First. In taking the articulation, our great object should be to “*catch nature.*” Nearly every operator has his own favorite mode of doing this, and it is of very little importance how it is done, if the desired end is attained.

My own plan of working is: after trying in the plates, (I now speak of entire sets,) and finding them all right, to place a strip of wax on each plate, to represent, as nearly as may be, the intended teeth. After securing them to the plates, I try them in, and cut off or add to until they are right in length and fullness. The advantage of this plan is, the wax representing the teeth allows you to observe the effect the teeth will produce, and enables you to make accurate adjustment and detect more readily any false position of the lower jaw; and the ease with which the wax can be altered permits you to *experiment* upon the expression different lengths or fullness will give, and select that which is most desirable and natural. I make it a rule to try them in a number of times, and am not satisfied until the patient has closed several times the same,—often a severe tax alike upon the *patient* and *patience*. Every expedient should be used to keep the patient in a good humor, and make them forget what you are doing. Their assistance is more in the way than of advantage in this operation; the less they help you the better.

In arranging in the wax, we should endeavor to approximate the rela-

tive lengths of the upper and lower teeth. As a general rule, make the upper ones long enough to just show the tips of the incisors when the lips are slightly parted, and then make the lower ones to them. This mostly requires about an equal division of the space. It is best, if any error is made, to make the bite *too short*, and rather have the upper teeth not seen *at all*, than to show too much. The upper back teeth should be shorter as they run back, so as to give a little extra length to the lower ones; they look better, more natural, and it makes the upper a little lighter, and adds weight to the lower. It also brings the division higher up on the masseter muscle, where the integuments are less flabby, and has a tendency to prevent the patient biting the cheek,—all small matters, but deserving of attention for all that.

Where patients are wearing teeth, it is sometimes best not to change the articulation, although it may be defective, especially if they are advanced in years. Dear bought experience has taught me some valuable lessons on this point; it is always best to let good enough alone. After getting the wax to suit, carefully mark the centre, and after securing the waxes in their position, proceed to make the “bite” or articulating model. For whole sets, nothing is better than a neatly made old-fashioned double bite, with a decent *tail*, well keyed. It should be solid, and convenient to handle,—neither too large or too small. These new-fangled contrivances, which so nicely represent all the motions of the lower jaw, natural and otherwise, are very well to play with; in fact, they are too playful, and often play with the operator very badly. A good solid bite is indispensable to success.

In arranging the teeth, endeavor to form the curve with the six front teeth, and then carry the bicuspid and molars back in straight diverging lines, so as to allow the unruly member full and free swing without let or hindrance. It is always preferable to place them over the ridge; but do not hesitate to put them outside, if it is required, for tongue room, especially in the upper jaw. Endeavor to place the lower ones as near on the ridge as you can conveniently, leaning in as little as possible, making the upper ones set out to meet them. There are few cases that will allow the lower back teeth to lean in *much* without interfering with the free movements of the tongue. The lower front teeth may, with advantage, be allowed to lean in slightly; it makes them set more solidly. The line of articulation endeavor to make straight, so that if either case is placed on a level surface, every tooth will touch. The pretty points on the masticating surface of the bicuspid and molars, which are designed to interlock so nicely, should be removed;—the object of this is to allow the pterygoids to give that triturating or grinding motion to the jaw, so necessary to perfect mastication. To favor this, I prefer a small lap, and allow a

slight space between the outside of the cutting edge of the lower incisors and the inside of the upper, for two reasons: first, to allow a little sliding of the jaw, and, secondly, to allow the main pressure to fall upon the back teeth, as they are better able to bear it, and it is less liable to displace the denture. It is also of advantage to round the posterior edge of the last molar both upper and lower: it feels more pleasant to the tongue, and if it is not done, they are apt to *strike first*, and throw the upper ones down in front.

When trying the teeth in on wax, the small points may be allowed to slide, because either in vulcanizing or soldering, little changes are apt to take place, which will destroy an accurate adjustment. It is therefore preferable to wait until the case is entirely finished to do the "touching up." When putting them in finished, especial attention should be paid to round off all points which are likely to strike in the various movements of the jaw; for, although after the loss of the natural teeth, flexion and extension is mainly to be relied upon in mastication, by a little extra care and attention, in most cases the other motions may be enjoyed to a great extent, and the practical usefulness of the operation increased. When the crowns of the teeth are made smooth, they may be roughened by cross grooves cut in them with the edge of a sharp corundum stone.

I admit that where the masticating surfaces of teeth are not marred, and made to nicely fit into each other, it looks well, and displays the workman's skill; but, in practical use, if they do not come together in the same spot, or, if after closure, any attempt is made at mastication, the suction is broken, and the denture displaced; and also contend that the "*rat-trap*" motion is not sufficient for perfect mastication. It is not skill alone that makes a good operator, but the adaptation of it. Especially is this true in our own specialty, where every operation requires an educated judgment, quick perception, and an accurate knowledge of the parts upon which we work, the difficulties to be encountered, and the end sought; the right use of these will supply the means to accomplish it. So far as my observation has gone, the most common defect in the arrangement of teeth is the almost universal practice of turning in the last molar, giving the case a *horse-shoe* appearance. This is objectionable: first, because it interferes with the tongue, if not to the extent to produce irritation, it makes a prominent angle for it to catch upon, and impedes its action; and, secondly, it allows the cheek to fall in just where it ought not, and by not pressing the muscles out of the way, allows the cheek to be bitten each time the teeth are closed. Several cases of this kind have lately come under my notice. To say the least, it is not artistic, does not improve the looks of the case out of the mouth or in, and is a condition seldom found in nature, and only there as an irregularity.

Another evil akin to it, is contraction of the arch, which destroys in a great measure the beauty and usefulness of the case. The teeth should be allowed to form a full, free circle. There is but little danger of allowing too much room for the tongue, especially if the patient be feminine. It also gives a better expression to the face, and restores that youthful contour so highly prized. It must be remembered that the food is held between the grinders by the tongue and cheek; if we place the teeth too much in, not only is the action of the *tongue* impaired, but the assistance of the cheek is also, in the same measure, lost, and a large pocket is formed, into which the food collects to the patient's annoyance. We should endeavor to approximate as near as possible the position of the natural organs; and when we reflect upon the immense change in the size of either jaw by the absorption of the alveolar processes, it will readily be seen that even to approximate the position teeth occupy naturally, will require the artificial substitute to be placed as far outside the ridge as stability will allow. I have been thus explicit upon the subject of *tongue room*, because it is found to be so generally neglected. Although I have seen a large number of cases which did not answer, or only answered imperfectly because of this defect, I do not recollect a single instance of trouble from the other extreme. Yet, in this, as in everything else, it is possible to have *too much* of a good thing. The operator must depend upon his judgment to guide him on the middle and only safe track.

In upper cases, the bite is taken in much the same way as for entire sets, placing wax upon the plate, and trimming it down until it approximates the size of the intended teeth.

These often require much more *bona fide* skill and good judgment than whole sets; and often, from irregularity of the lower teeth, are the cause of considerable labor and annoyance.

[TO BE CONTINUED.]

AMALGAM.

BY B. WOOD, D. D. S.

It is now about thirty years since amalgam, of some form or another, has been in general use for filling teeth. It has been the object of both the most extravagant commendation and condemnation, being represented on the one hand as innoxious, inoxidable, as forming a more perfect and durable filling than gold, and as being preservative, *per se*, in the actual arrest of decay; while, on the other hand, denounced as detrimental to health, owing to the contained mercury, (which has been said to produce salivation and other mercurial affections,) as subject to oxydation and shrinkage, and therefore unfit for filling teeth; and even as inducing, *per se*, softening and decay of teeth filled with it; originating abscess, exos-

tosis, &c. It was found to *blacken* teeth filled with it, and this lent apparent confirmation to other objections urged.

Up to within the last half dozen years the better class of dentists have been arrayed against it with remarkable unanimity, and for some years it was held unprofessional to employ it at all. Since that time a great change in sentiment prevails. Many who formerly opposed it most strongly, now use it to a greater extent than any other material; and there is rarely a dentist, of high or low position, but employs it in "certain cases," although it must be conceded that if admissable in the cases specified, it may be in others. Few now appear to regard it injurious, *per se*, either to the general health or to the teeth.

Without discussing the merits of this material, I will say that I have ever been opposed to its general use as a substitute for gold, where the latter could be applied successfully,—and there are few cases in which it cannot be by adequate skill. Indeed, it was due to this strong objection that I did not before introduce to the profession a composition for amalgam superior in several respects to the preparations yet in use. During the past five years I have seen a good many amalgam plugs of from five to twenty years standing; and although the majority were bad, yet there were enough good ones to show that the fault was less in the material than in the unskillful use of it, and to indicate the possibility of so preparing it that, in competent hands, it might prove, in all ordinary cases, as effectual simply for the *preservation* of teeth as gold.

Until about ten years ago, the best material generally employed as a basis for amalgam, was an alloy of silver and copper,—usually from eight to ten parts of silver to one part of copper, as contained in the ordinary silver coins, which, being convenient at hand, and containing sufficient copper to cause the amalgam to harden, were almost universally resorted to by the best dentists. Sometimes zinc was added, probably to retard the *setting*, as it has that effect. Other cheaper compounds, consisting of the baser metals, were used to some extent,—being, however, comparatively worthless. *Pure silver*, alone, although proposed and much talked about by some, never found favor in practice, for the very good reason that the filings when mixed with mercury do not cohere and harden properly, some alloy being essential to fit it for the purpose.

Plugs made with this form of amalgam (silver alloyed with copper as the basis,) are very hard, but shrink some, and are quite granular and gritty in texture. They blacken the teeth very generally, and upon breaking them open, I have sometimes found the plugs themselves black throughout their substances, showing their permeability to air if not to fluids. Still, I have seen cases of teeth preserved twenty years or more with this material. No doubt much depended upon the relative amount

of mercury incorporated in the mixture, or the manner of preparing the paste, as well as the fitting of the cavity and introduction and finishing of the plug.

In 1855 Professor E. Townsend brought to the notice of the profession an alloy of *tin* and *silver*, since known as "Townsend's Amalgam," which has proved to be an improvement upon the old form in some particulars, especially in overcoming the shrinkage to a great extent, and forming a denser or more compact plug, and was really a useful boon to the profession, although the doctor finding it not equal to his first expectations, and appearing to sink under a sense of odium for commending it, (at a time when amalgam was under professional ban,) soon repudiated it and all forms of amalgam. Nevertheless, it is doubtful if in the course of his useful life he ever rendered a better service to the profession, or entitled himself to more permanent gratitude; and it is only to be regretted that, instead of renouncing, he had not gone on to perfect the improvement.

This form of amalgam, or some modification of it, has since come into general use. Prepared according to the original formula, it forms a very compact and durable plug, although it *sets* too quickly for convenience, (unless an excess of mercury be used,) and the paste is too granular and non-coherent to manipulate well. The article sold as "Townsend's Amalgam," however, is not always made after the original formula, but sometimes contains a larger proportion of tin, which makes it cheaper and prevents its setting so quickly, but the plugs are softer and less durable, and also liable to shrink; and if there be too great an excess of tin, the paste will not harden; hence, probably, the ground of complaint sometimes made, that "Townsend's Amalgam will not harden;" but this may also be the operator's fault in using an excess of mercury. Dr. Townsend directed that it should be made up into a *stiff cake*. He also very properly enjoined that the ingredients should be pure, which it is to be feared is not always regarded in the competition of trade. Dentists who prepare it themselves, frequently use nothing purer than silver coin (which contains about one-tenth of copper,) in connection with any quality of block tin at hand. Sometimes zinc is added, to retard the setting, although a disadvantage in other respects. It were better had the preparation of an article so extensively employed, been under the control of the inventor or some one having a personal stake in the quality of the article, or else that the profession were more generally qualified to prepare it for themselves.

There are also other kinds of material for amalgam, sold under various names, consisting mostly of cadmium, or cadmium and tin, or other metals,

quite dissimilar from the above, and comparatively worthless; but these are discarded by the better class of dentists, and need not be specified.

Some of the secret preparations lately introduced as new articles, claim to contain *platinum* in addition to tin and silver, for what object is not declared; some profess to contain both platinum and gold, although sold at prices which would indicate too small a proportion of the latter for any beneficial effect.

Platinum is of no advantage whatever in the composition, and in some respects is one of the worst admixtures that could be used. Platinum does not combine with mercury at ordinary temperatures, and its affinity for the tin and silver is so feeble, that when filings of the compound are worked up with mercury, the platinum is dissolved out, so to speak, and rejected by the latter, remaining only as a mechanical admixture. Hence it is, that when the amalgam hardens, its surface is seen freckled with dark dots, consisting of isolated particles of platinum, affording so many centres for galvanic action. It also presents the appearance of being coated with a dark, dirty fuzz. It is easy to foresee the result of such incoherent particles between a plug and the walls of a dental cavity. Copper, for a like reason, has a similar effect, although much less marked. Hence, admixtures of either of these metals should be guarded against in preparations for amalgam. The so-called "platina amalgams" do not contain platinum. They may contain copper, zinc, cadmium, antimony, &c., (none of which they should contain,) but not platinum. What the quacks of New York city call "white platina," or "platina cement," is nothing but the ordinary amalgam. They leave it to the option of their patients to have "amalgam" at so much, or "white platina" at a higher price, but they use one and the same article. Some of these worthies facetiously relate this difference, that in the one case they wash the paste *twice* with alcohol; in the other, but *once*! It is one of the small tricks of quackery, glorying in its shame.

Gold, however, combines well with mercury, and also with the silver and tin in the alloy, and when added in due proportion, uncontaminated with platinum, copper or other impurity, improves the result. A few years prior to Dr. Townsend's announcement, William Robertson, of England, recommended an alloy of one part gold, three parts silver, and two parts tin, using the metals pure. Although a comparative examination in the laboratory, went to show the inferiority of this to that made after Townsend's formula, it served to indicate the probable value of gold as an addition to silver and tin, in case the proportions were properly adjusted. Subsequent experiment favored a larger proportion of silver and tin, the best result being obtained by combining the latter metals in nearly equal proportions, and adding thereto about one-tenth part, by weight, of gold.

It mixes up, with mercury, into a coherent cake, which works neatly, and upon hardening, forms a white, bright, smooth-surfaced, compact plug, superior to either of the other two preparations. If in excess, gold is rather a detriment, and if too little be employed, its good effects are not perceptible. The gold should be pure, free from copper, platinum, &c., for reasons above stated, as should be the other ingredients, and also the mercury.

A modification of Dr. Townsend's form of amalgam, known as "Lawrence's Amalgam," has recently been brought into notice. It possesses the quality of setting more slowly than Townsend's, and, for this reason, is preferred by some dentists, who wish to mix up enough at once for half a day's operations. This is inconvenient, however, in building out teeth, and in the liability to injury by mastication. It is not so hard and durable as Townsend's, and not so bright and white when *set*, presenting a dull blue or zinc-like appearance. We are not aware that the precise formula has ever been stated.

In fact, nearly all the preparations for amalgam now on sale, are held as secrets from the profession, either as to the constituents or the proportions, which secrecy is perhaps justifiable in the case of real improvements, as a means of protection, in view of the prejudice which prevails in the profession against the legitimate and honorable means of protection afforded by the patent system: since not to allow men some security in the fruits of their labors would discourage improvements.

ALBANY, N. Y.

QUARTERLY NOTES.

Of all other professional interests, that just now in the ascendent is Dental Education; the Colleges have had their Commencements, when they added more than a hundred to the ranks of dental practitioners. Diplomas are very good helps, but very poor dependencies, and yet we suspect many care more for the shadow than for the substance.

The graduates having won their honors, how stand the professors? Some have filled their chairs with dignity and ease; assiduous workers, they have gleaned from many fields rich sheaves for their garnerers, to be dealt out in season, with liberal hands. Some are passable, where better cannot be obtained. There remains another class, by whom great things were promised; these are they who would raise the whole profession to their own high standard; who would bring to their aid a knowledge of the highest and noblest of the manual arts, of sculpture, of painting, of architecture; who would make their pupils Artists, filled with the Divine afflatus. But, alas for such promisers, their gems prove to be paste; their paintings, daubs; their sculpture and architecture, mere plaster of

Paris images ; and all their inspiration but maudlin sentiment. So they go, and judgment is entered: Weighed in the balances, and found wanting.

The festive gatherings of the past month mark an epoch of professional liberality and fraternity. It does men good to come together and know each other, to smoke the pipe of peace, and drink the waters of oblivion over past disputes. We ate, drank and were merry in the City of Brotherly Love ; thence journeyed to New York, to find the old Dental Convention in session, alive and vigorous, with a good platform to stand on, and no rotten timbers. The meeting was a valuable one, and the closing feast a fitting sequel. With energy and good management, this Convention may be made what one of the speakers indicated : The Democratic Council of the Profession. Surely, it is worth trying for.

We were glad that the occasion offered by the Convention was not suffered to pass without a decided protest against the wholesale sacrifice of human teeth perpetrated at the "gas" emporiums in our large cities. We have seen commendations of this ruthless butchery in public prints, from prominent medical men, which are disgraceful. No dentist who knows how to save teeth, would risk his reputation by endorsing a practice which aims to take as many teeth from the mouths as dollars from the pockets of the victims. The ignorance of physicians in regard to our specialty is proverbial, and yet they too often give their opinions on matters within our domain with suspicious glibness. Let them stick to their drugs, and leave dentistry to dentists ; the latter are quite as well qualified for their profession as the former are for theirs. If extracting is to be a specialty, dentists should support such of their own number as will proceed with judgment and honesty, and not aid in building up a system which must prove subversive of the best interests of their patients and themselves.

Looking over the periodicals that have gathered on our table, we conclude that dentists share the common frailty of liking to see themselves in print. Judge of our surprise, in taking up in succession three recent dental journals, to find the same article appearing as original in each. Only the audacity of a gorilla could be sufficient for such a performance ; we hope the author will receive a *compensation* equal to his merits.

Turning to another source, we come to an utterance, given forth as from the inner oracle, displaying a wig-full of learning, but of so deep a nature as to require *very* "open vision" to see it. Persons not thus endowed, fail to apprehend the author's treatment, especially when it applies to "the gingival margins of the gums." Will he kindly tell us where they may be found. In view of the fulminations with which this array of profundity is backed up, we quote the following : "It would be much better

for the credit of dentistry and the well-being of the community, did such dental lights confine the exhibition of their skill and superior talents to much simpler operations. Indeed, words cannot be found in the English or any other language [especially the Chinese, of which the Doctor is supposed to be a professor,] suitable to express the just opprobrium that should be meted out to all such living practitioners of dentistry."

Another writer is accorded the leading place in the journal which he illuminates with the corruscations of his genius. An English person, named Tomes, whom our readers may chance to have heard of, is taken down completely by this second Daniel come to judgment; even a certain "Masterly Report on Dental Physiology," does not escape correction. While we will not waste our sympathy on the former, we are at a loss whether to admire or wonder at the temerity with which the latter is attacked. We cannot recommend any one to copy this author's style; it is unique, as the work of genius always is, reminding us of a vertebral column, which has lost its articulations. When next he tries his pen, he should better understand his bearings.

We commend to the Dental Protective Society a brochure, fresh from Paris, which settles the priority of the introduction of vulcanized caoutchouc for dental purposes. With such weighty testimony against them, we are confident the rubber patents would be driven out of Court before the Judges had time to see more than the author's name. What has become of the Commissioners?

We referred on a former occasion to the Code of Dental Ethics, but said nothing of its authorship, that being a matter of even less account than the Code itself. Section 3 of Article II., is as follows:

"It is unprofessional to resort to public advertisements, cards, hand-bills, posters or signs, calling attention to peculiar styles of work, lowness of prices, special modes of operating; or to claim superiority over neighboring practitioners; to publish reports of cases or certificates in the public prints; to go from house to house to solicit or perform operations; to circulate or recommend nostrums; or to perform any other similar acts."

What shall be thought of the professional conduct of one who, having reported that Code and secured its passage, should print the following advertisements:

SAFE AND PAINLESS TOOTH EXTRACTION.—Having concluded to use our Celebrated **APPARATUS** for preparing Nitrous Oxyd, in Cincinnati, during Dr. ———'s labors in the Dental College, it became necessary to make some arrangement for our *permanent office* in Xenia. So we carefully examined all the kinds of apparatus in Cincinnati, Xenia,—and all in the market,—but finding none other safe or efficient, regardless of the high price, we sent for another **APPARATUS**, which arrived safely in Xenia immediately after the departure of its predecessor. ——— Apparatus regulates the heat to exactly the proper degree. Too high a temperature, for five minutes, would generate enough of poison to render a hundred gallons of Nitrous Oxyd injurious to the patient. No other apparatus has a heat regulator.

PROFESSIONAL.—Cleanliness is akin to godliness, but it isn't **CLEANLY** to reinhale your own breath, nor is it **GODLY** or **SAFE** to inhale from a rubber bag into which hundreds of others have breathed. **DR. ———**, gives **PURE NITROUS OXYDE**, for extracting teeth, from a **gaometer**, into which no one has breathed, or can breathe. He also treats neuralgia and diseases of the face, mouth and throat.

Pass on, Professor, and when you essay to write quack advertisements again, think of the Code of Ethics, and don't disgrace the champion of the Cross Roads Spelling School. By the way, was not the temperature too high when that last gas was made? Doubtless the poisonous fumes brought on your *mal de tete*. No wonder he raves about dogs, poor fellow! Why should not one "whose boyhood was sung to sleep by the braying of hounds and the brown wolf's howl, and wakened by the shrieks of the screech-owl and the noisy courtships of the wild turkey gobbler,"* imitate, in his mania, the cries which haunted his early years? We wish our friend a speedy return to his right mind.

Certain ones among us are always harping on the evils of our nomenclature, who, at the same time, are most conspicuous for their random use of obsolete words. But, if the known and recognized terms be cumbrous and inexpressive, why should we saddle ourselves with a fresh load, which have neither the prestige of long usage nor any merit to commend them? "A little learning is a dangerous thing."

In conclusion, it may be well to utter a warning against the conceit which would arrogate to itself all the ingenuity and scientific advancement attained by the many laborers gone before, or still cotemporary in our specialty. A man who moves in an atmosphere of effrontery, breathing out threatenings and anathemas, who habitually decrys others whom the community holds worthy of respect, will find himself some day in woful want of friends. Whom effrontery raises into high places, it also makes so reckless as to insure his fall. Wisdom carries an air of courtesy with its confidence. The loud assertion, the impudent retort, the sneering fling, the use of pondrous polysyllables and obsolete conglomerations of seggregate and aggregate concatenations, betray the uncultured mind. The test of style is clearness, not turgidity; science expresses her formulas in well marked definitions, not in vague and crude absurdities. If, then, any man among us would be a teacher, let him first learn so to express himself that the brain of a seraph need not be muddled by his aphorisms.

UNKNOWN.

REGULATING TEETH.

BY C. A. MARVIN, D. D. S.

(CONTINUED.)

In my former article on this subject, it was stated that four main considerations were to be kept constantly in mind while operating upon irregular teeth, viz.:

- 1st. The preservation of correct facial expression;
- 2d. Its restoration if lost;

3d. Perfect articulation ; and

4th. Orderly arrangement.

In this article I propose to consider one of these leading principles somewhat more particularly.

Many seem to think that the first of these four principles requires little examination, and are quite inclined to pronounce its nomination entirely gratuitous.

“Of course the correct expression of the face must be preserved,” say they. “Every dentist knows that ; and it is altogether unnecessary to spend time in arguing the point.”

Now, I have no doubt that the admission of the *general principle* contained in this rule will be instantly conceded by every dentist ; and the fact that all agree in admitting its truth, renders the examination of it more important, because a rule that is accepted by all should be well understood. Nor can it be said with any degree of propriety that there is nothing in this rule deep or obscure enough to require study. There is much in it ; much that does not appear upon a first glance ; much that *will* appear, however, if operations upon irregular teeth are attempted without studying the subject.

Correct facial expression. What is it ? It is not the mere absence of deformity. It is not merely that condition of the features which enables the individual to use them at will in expressing joy, sorrow, disgust, pity, conceit, anxiety or composure of mind. It is not merely that the nose is straight, and that the angle formed by its base and the right cheek is exactly equal to that formed by its base and the left cheek ; that the corners of the mouth are level, and that the lips meet evenly. It is not that words can issue from the parted lips smoothly and unaccompanied by contortions or evidence of effort ; that smiles of sweetness can play around the mouth, and an expression of unfeigned pleasure appear on the face, without a distressing exhibition of struggle between feature and feeling. It is more. Physiognomists tell us that the prominent traits of human character are marked upon the face. But, in my judgment, the subject which we are examining makes sad havoc with many of their theories. An absolutely *correct expression* of the face would undoubtedly be a physiognomical expression ; but, taking expressions as we find them, physiognomy is sadly at fault. Let ten persons present themselves for examination according to physiognomy, strictly, and while undergoing examination let them close their eyes and lips, and seven out of the ten characters would fail of being correctly delineated. Why ? The soul—the seat of character—is shut in from view. Its windows—the eyes—are closed ; the exponents of its varied sentiments and feelings—the lips—are fixed ; consequently the *inner* being cannot be seen, and judgment can only be

formed from the features. Some general idea can be gained from these ; but in the absence of the eye-glance and the mouth-motion, no reliable or minute opinion can be reached. It is only when the thought within is betrayed by the eye or manifested by the involuntary workings of the features, that the revelations of the science of physiognomy, so aided, can be relied upon.

Now, it may be asked, what all this has to do with regulating teeth ? And perhaps a smile of approval may cross the lips of the reader as he sees the question. Do not let us forget, my practical friend, that as members of a profession, which claims to be a *learned* profession, we not only have the right, but should esteem it a duty to investigate closely and to remote details. It is easy to arrest the seeker after knowledge when pursuing a line of thought to remote depths, with a blunt, practical question, and sometimes it is necessary ; but it should not be thrown in until the irrelevancy of the examination is apparent, else it not only chills the eager investigator, but betrays an absence of perception on the part of the objector, not specially flattering.

It is not intended that all dentists should immerse themselves in the study of physiognomy as a science, that these remarks are made, but to show that the study of the expression of the face is an important subject ; that it has been so deemed, and that it is so deemed in the present day ; and it will not do for the practitioner of dentistry, who claims to be an intelligent and competent man, to ignore it, or say there is little in it. Physiognomy, as I have intimated, cannot, in my judgment, substantiate all that it claims. Its far-fetched inferences and fine spun theories are too multiform and minute ; but there is something in it, even as a science. There is more good, however, in its effect than in itself. Its effect is close scrutiny of the human countenance ; and if we are at all interested in it as a science, we find ourselves endeavoring to trace on the human face evidences of what we know to be prominent traits in the character.

Now, this is just where I wish to bring my readers, in this article, viz. : to become *students of the human face*. Not for the purpose of establishing any theory, of propping up any "ology" whatever, but that they all may be able to determine for themselves what *correct facial expression* is. This is of prime importance to the dentist. I cannot find language too expressive to set forth my estimate of its value ; nay, of its indispensable necessity.

How can a dentist insert an artificial denture that shall be an evidence of *professional* skill, unless he is able to determine what expression of the mouth he is to secure ? In the absence of this knowledge, what is he but an artizan, and his set of teeth the product of mechanical skill alone.

If such knowledge is necessary for the proper insertion of artificial

teeth, how doubly important in the regulating of the natural ones. A failure in the first case may be corrected by some other competent dentist, and the only damage to the patient be the loss of the time and price of the teeth; but injudicious or ignorant management of the natural organs may produce results which no skillful hand can correct, and which may cause life-long disfigurement.

Am I not right, therefore, in asserting that close study of faces, so as to decide at once upon correct expression, is all important?

When a case of irregular teeth presents itself for treatment, the dentist should first of all scrutinize the face. He should examine it in repose and in motion. He should engage in conversation with the patient for the express purpose of studying the face and observing what outward evidence, if any, there may be of the irregularity within. By so doing, he will work intelligently, having decided what he is to accomplish before he commences the operation. A little time spent in studying the case *before* beginning to operate, will often save much time and annoyance afterward.

Some general directions may be given for the formation of an opinion as to correct expression. But such directions can only be very general. The details can be gained by study alone.

First, then, observe the outlines of the face; notice the prominence of the forehead and of the chin, and the fullness of the cheeks. By observing these, the instructed eye is at once enabled to perceive what degree of fullness the lips should possess. If these are well proportioned; if the upper lip, at the base of the nose, is neither too much depressed nor too much elevated to hold its proper relation to the border of the same lip, and if the border of the lower lip meets easily, and without constraint, the border of the upper, and itself bears the proper relation to the depression and point of the chin, the one feature may be safely considered normal and consistent outwardly.

Next, observe the relations between this feature—the mouth—and the other features; is it so related to them as to attract no special attention to itself; is the harmony of the features unbroken, and when a front view, a quarter view, or a side view is taken, do all appear well-balanced? If so, let them remain thus; and, in all the operations upon the teeth, let great care be taken not to disturb the outward expression.

Many a person has been so changed in the expression of face by dental operations, as to be hardly recognizable by their friends. Their identity has been lost. Such is not dental art. Improvement, or no change, should be the rule; and the dentist should fit himself to work by this rule.

This, and just this, is what I wish to accomplish by writing upon this topic,—increased attention to the study of the human face. If anything

I have herein written shall have the effect to increase in any other mind interest in this particular theme, I shall not feel that this is labor in vain.

(TO BE CONTINUED.)

TAKING PLASTER IMPRESSIONS WITHOUT AN IMPRESSION CUP.

BY J. F. LEAMING, M. D., D. D. S.

In this brief article I design to make a few remarks in reference to the method of taking upper impressions with plaster without the use of the usual cup of metal or wax.

The process is simple. It requires less time than the usual method, gives perfect results, and is, in a large majority of cases, preferred by the patient; avoiding the unpleasant, and sometimes painful distention of the mouth, unavoidable when introducing the cup. A clean bowl, for mixing the plaster, and a spatula of *polished* steel, or, better, of silver, three-quarters of an inch wide, and slightly flexible, are the only fixtures necessary. The perfectly polished surface of the spatula is essential, as, otherwise, annoyance will be experienced from the adhesion of the plaster to the instrument, best remedied, when it occurs, by dipping the spatula into water. Let the patient be seated in the ordinary operating-chair, the head slightly inclined backwards. If the patient is liable to nausea or retching, it will be greatly mitigated by keeping the head nearly erect, and breathing through the nose. After carefully examining the mouth, mix a sufficient quantity of plaster (of any good variety, if fine and strong,) to the consistence requisite to pour into a mould, adding a little salt, if necessary, and stirring constantly, until it gives evidence of settling. When it will not readily fall from the spatula inverted, it is fit for use. Care should be taken not to delay too long, as better results are obtained while the plaster is quite thin. Distending the mouth slightly with the left hand, introduce the plaster quickly, but not hurriedly, upon the point of the spatula, first covering the arch, until over-full, then upon the buccal aspect of the gum, beginning posteriorly on both sides, and finishing anteriorly, pressing the plaster carefully to the gum, in front, with the napkin. Remove, by first pressing the impression at the sides, carefully downwards. If any portion of the rim is imperfect, trim down as far as needful, wet the impression, re-apply it to the mouth, and build up with fresh plaster.

For partial sets, I regard the above method as altogether superior. To remove in such cases, it is sometimes best to break off the rim by inserting the point of the spatula in a line with the cutting edges of the teeth.

Success with the above method, will depend much upon the familiarity of the operator with the particular article of plaster he uses, especially with

the *time* required to set. A little salt or warm water, or both, if necessary, will quicken it; cold water retards it. Too much water will cause it to set spongily, and be very liable to crumble. Too little water will cause it to set too rapidly. Ordinarily, a little salt, with water, at common temperature, 60° to 80°, will be found best. Beginners would do well to dispense with the salt at first.

The dexterity acquired only by practice, is another essential to complete success; and the operator who is not deterred by a few failures at first, will soon abandon the impression cup for upper cases.

I have used it for years, excepting in cases of spongy gums where moderate pressure is desirable. Beginning in cases of one or two teeth, I found it equally applicable to full sets.

SEAVILLE, N. J.

COMMENCEMENT OF THE PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

The eleventh Annual Commencement of the Pennsylvania College of Dental Surgery was held on the evening of March 1st, 1867, at Musical Fund Hall. A large and brilliant audience assembled, notwithstanding the weather was not as propitious as desirable. It is always gratifying to have an appreciative auditory, but especially is this so when the end of preliminary studies have been reached, and the commencement of a life experience has begun with so many young men. These annual gatherings are also valuable, in that they in a great measure educate the public mind to an appreciation of the importance of a thorough training in our specialty; and to the extent this knowledge is promulgated will quackery find its true level in their appreciation.

The exercises of the evening consisted of music by the Germania orchestra, prayer by Rev. Dr. Bomberger, conferring the degrees, which duty was performed, in the absence of Henry C. Carey, Esq., President of the Board of Trustees, by Dr. W. W. Fouché. The completion of this interesting ceremony was followed by the distribution of the many beautiful floral gifts from the lady friends of the graduates. This, though not a part of the regular programme, has become a time-honored custom at both Medical and Dental Commencements, and they add much to the interest of these annual gatherings. The valedictory was then delivered to the graduating class by Professor T. L. Buckingham, who earnestly endeavored to impress them with the importance of the duties they had assumed, and that the education they had thus far received, was but the basis upon which to build their reputation, by a rigid self-training in the future.

The following compose the matriculants and graduates of the session just closed.

MATRICULANTS.

| | | | |
|---------------------------|------------------|----------------------------|-----------------|
| J. Aspinwall,..... | Massachusetts. | H. W. Moore,..... | Pennsylvania. |
| John A. Andre, | Pennsylvania. | D. K. Martin,..... | " |
| Benjamin Arango,..... | Cuba. | A. M. Myers,..... | New York. |
| Stephen Armas,..... | Porto Principe. | W. R. Millard,..... | " |
| William Barrett,..... | Maine. | T. J. Mitchell,..... | North Carolina. |
| Wm. M. Beardslee,..... | Pennsylvania. | C. A. Marvin,..... | New York. |
| Edward Bedloe,..... | " | T. H. Musgrove,..... | Maryland. |
| E. M. Beesley,..... | New Jersey. | A. L. Northrop,..... | New York. |
| H. D. Bennett, | Illinois. | Gonzales Orue,..... | Cuba. |
| G. Beysselance,..... | France. | G. C. Pierpont,..... | New Jersey. |
| J. E. Brecht,..... | Pennsylvania. | John Pearce,..... | Ohio. |
| Yldefonso Bravo,..... | Cuba. | D. B. Phelps,..... | New York. |
| George C. Brown,..... | New Jersey | C. del Portillo,..... | Cuba. |
| T. G. Boggs,..... | Pennsylvania. | W. C. Parks,..... | New York. |
| J. C. Du Bois,..... | Alabama. | G. H. Perine,..... | " |
| Chas Buckley, Jr.,..... | Pennsylvania. | G. L. Rauch,..... | Pennsylvania. |
| Thomas Burgh,..... | New York. | G. L. Robb,..... | " |
| J. N. Crouse,..... | Illinois. | A. B. Robbins,..... | Pennsylvania. |
| C. C. Darby,..... | Missouri. | W. B. Race,..... | New York. |
| F. Darby,..... | New York. | E. G. Roy,..... | " |
| S. C. Dayan,..... | " | C. O. Rush,..... | Georgia. |
| J. Q. McDavid, | South Carolina. | Peter Schembs,..... | Pennsylvania. |
| D. S. Dickerman, | Massachusetts. | John S. Smith,..... | " |
| C. O. Dean,..... | Ohio. | C. W. Strang,..... | New York. |
| J. P. Eldridge,..... | " | K. J. Shirk,..... | Pennsylvania. |
| L. F. Frink,..... | Florida. | D. D. Smith,..... | Massachusetts. |
| C. E. Francis,..... | New York. | J. A. Salmon,..... | " |
| Richard Gordone,..... | Cuba. | J. A. Sheldon,..... | New York. |
| Tomas Gonzalez,..... | " | M. O. Smith,..... | " |
| Rafael Gonzalez,..... | " | Sam. Strohman,..... | Pennsylvania. |
| D. R. Greenlee, | Pennsylvania. | J. R. Thompson,..... | South Carolina. |
| J. W. Guiley,..... | Oregon. | G. H. Taylor,..... | North Carolina. |
| J. O. Griffith,..... | New Brunswick. | G. R. Thomas,..... | Pennsylvania. |
| Robert Huey,..... | Pennsylvania. | Henry Tucker,..... | New Hampshire. |
| John A. Hawkins,..... | Pennsylvania. | James Taylor,..... | England. |
| C. Hathaway,..... | British America. | J. D. Thomas,..... | Georgia. |
| Chester Heath,..... | New Hampshire. | Francisco Vega,..... | Porto Rico. |
| W. W. Hoffman,..... | Pennsylvania. | J. E. Valentine,..... | Pennsylvania. |
| H. B. Hamaker,..... | " | J. H. Winslow,..... | " |
| W. B. Hurd, | New York. | J. M. Whitney,..... | Ohio. |
| S. Hassell,..... | " | J. D. White, Jr.,..... | Pennsylvania. |
| C. B. Harper,..... | Alabama. | J. G. Weltsmer,..... | " |
| Isaac H. Levy,..... | Pennsylvania. | B. Wood,..... | New York. |
| E. G. Leach,..... | Massachusetts. | C. J. Watkins,..... | North Carolina. |
| George B. Lewis,..... | Illinois. | H. M. White, M. D.,..... | Pennsylvania. |
| James Lewis,..... | Vermont. | Amos Wirt,..... | " |
| E. Martinez,..... | Porto Rico. | J. F. Leaming, M. D.,..... | New Jersey. |
| Marian Martorell, | " | J. H. Githens,..... | Pennsylvania. |
| Thomas T. Moore,..... | South Carolina. | Spencer Roberts,..... | " |
| Charles A. Mondelet,..... | Canada. | W. W. Russell,..... | Massachusetts. |

GRADUATES.

TITLE OF THESIS.

| | | |
|---------------------------|---------------------|----------------------------------|
| Stephen Armos,..... | Cuba,..... | Dental Caries and its Treatment. |
| John Aspinwall, Jr, | Massachusetts,..... | The Dental Tissues. |
| Edward M. Beesley,..... | New Jersey,..... | Mounting Teeth on Rubber. |

| | | |
|---------------------------|-----------------|---------------------------------------------|
| Charles Bulkley, | Pennsylvania, | Mechanical Dentistry. |
| John N. Crouse, | Illinois, | Filling Teeth after the Pulp is Exposed. |
| Charles H. Darby, | Missouri, | Hysteria. |
| Frank Darby, | New York, | Odontalgia. |
| Squire C. Dayan, | " | Diseases of the Dental Pulp and Periosteum. |
| James W. Gurley, | Oregon, | Treatment of Exposed Pulp. |
| Robert Huey, | Pennsylvania, | Inflammation. |
| James Lewis, | Vermont, | The Extraction of Teeth as they pertain to |
| David R. Martin, | Pennsylvania, | Caries of the Teeth. [Irregularities. |
| Mariano Martorell, | Porto Rico, | Caries of the Teeth. |
| John Q. McDavid, | South Carolina, | Extraction of Teeth. |
| Henry W. Moore, | Pennsylvania, | Combustion. |
| Gonzales Orue, | Cuba, | Mechanical Dentistry. |
| Casimiro Portillo, | Cuba, | Inflammation. |
| George L. Rauch, | Pennsylvania, | Caries of the Teeth. |
| John S. Smith, | " | Treatment and Filling of Pulp Cavities. |
| James A. Sheldon, | New York, | Mechanical Dentistry. |
| Clinton W. Strang, | " | Sulphuric Ether and Chloroform. |
| James Taylor, | England, | Sympathetic Affections of the Teeth. |
| George R. Thomas, | Pennsylvania, | Preservation of the Teeth. |
| Francisco Vega, | Porto Rico, | Rubber vs. Metal. |
| H. Meredith White, M. D., | Pennsylvania, | On the Growth of the Alveoli. |
| Joseph F. Winslow, | New York, | Antrum Highmorianum. |

GRADUATES WHO HAVE BEEN PRACTICING SINCE 1852.

| | | | |
|-----------------------|---------------|------------------|----------------|
| G. C. Brown, | New Jersey. | W. B. Hurd, | New York. |
| J. F. Leaming, M. D. | " | T. Burgh, | " |
| D. R. Greenlee, M. D. | Pennsylvania. | S. Hassell, | " |
| J. H. Githens, | " | A. L. Northrop, | " |
| Spencer Roberts, | " | Enos G. Ray, | " |
| Amos Wirt, | " | T. H. Musgrove, | Maryland. |
| A. R. Robbins, | " | W. W. Russell, | Massachusetts. |
| Benjamin Wood, | New York. | J. A. Salmon, | " |
| C. A. Marvin, | " | E. G. Leach, | " |
| W. C. Parks, | " | D. S. Dickerman, | " |
| G. H. Perine, | " | Chester Heath, | New Hampshire |
| C. E. Francis, | " | | |

By a resolution of the Faculty of the College, all who have been in the reputable practice of dentistry since 1852, have the privilege of matriculating and submitting to an examination, without attending lectures. But in order to receive the Diploma of this Institution, they must not only be satisfactory to the Faculty, but they must produce evidence of practical ability in operative and mechanical dentistry. The object of this rule is to endeavor to separate all truly worthy members of the profession from the unworthy, with the belief that it will materially hasten the time when, by the moral force of the community, if not by legal enactment, *all* will be obliged to possess a certificate of ability to practice. In accordance with this rule, our readers will observe a large number of names under the appropriate heading, of those who voluntarily came forward to comply with the requisitions of this rule. To many, the Diploma may be of trifling value in a pecuniary sense; but their effort to obtain it will, as an example to younger men, be of immense value, and will do much, in our judgment, to elevate the profession. The action of this College in granting these

degrees, may be open to criticism in some respects, yet we still regard it as the only means to bring the profession to a common level. All proper means has been, and will continue to be adopted, to guard with jealous care the rights of students and the honor of the profession.

The class of this year exceeds in number that of any previous one; and, judging by the largely increased numbers in all the Dental Colleges of this country, we have a right to feel encouraged in the belief that the vital necessity of a thorough dental education, as a preliminary to practice, is coming to be fully appreciated. Another evidence of this fact is found in the large number of young men just entering upon the studies of their chosen profession in the present class. It is an earnest of the time, close at hand, when to commence practice without a diploma, will be as disreputable as to practice medicine without the thorough training of a medical school. We therefore consider this the most encouraging indication developed in this course.

We would call especial attention to the reports of our demonstrators. We believe they will evidence to all that full opportunities exist for practically developing the theories taught. We think this exhibit of work performed, will bear comparison with any institution of this or any other country, and give evidence of the perseverance and industry of the class of this year. We have repeatedly, in these annual reports, called attention to these clinics. Those members of the profession who have never been in the infirmary of a dental college, can form but a limited idea of their operation from the reports, and time could not be more profitably spent than in visiting one. Any doubts that may be honestly entertained of their usefulness as a means of instruction, must be obliterated by a personal inspection. The advantages possessed by the clinic of this College, and doubtless all others, are far superior to any private practice, let it be ever so extended. Operations that rarely or never come under the care of the practitioner, find their way here for treatment. Under the instruction of thoroughly competent demonstrators, not only these, but the regular routine operations, must be made entirely plain to the dullest comprehension. This College devotes a fine, large, well-lighted room to this purpose, in which are twenty-eight operating-chairs, and two devoted in a separate apartment, for extracting. Two hours daily, excepting Saturday, are devoted to the operative department, under the care of the demonstrator. This time is fixed from two to four, P. M., but in order to give as much time as possible to practical manipulation, all students, not otherwise engaged, are at liberty to use the chairs during hours not devoted to lectures. From nine to eleven, A. M., the Demonstrator of Mechanical Dentistry is always present to give all necessary instruction needed in his branch. The effort has been to make this as thorough as

possible, covering all the operations likely to occur in practice, and of all the different materials used at the present time; so that those whose experience has been confined to mounting teeth on rubber, may have a practical knowledge of inserting teeth on metallic plates. By thus combining the theoretical with the practical, we have as a result, the highest evidences of skill in both departments; and we have no hesitation in asserting that the operations in both the Operative and Mechanical Clinics will not suffer by comparison with those whose reputations stand among the highest in our country. And we doubt not this can be asserted of all the colleges. We do not state these facts from any motive of self-laudation, but to impress, if words and facts will do it, upon the minds of those who have students, that no private practice or instruction, however long or well continued, can be compared to a Collegiate Course in thoroughness and efficiency. The following are the Demonstrator's Reports in detail:

OPERATIVE DEPARTMENT.

| | |
|----------------------------------------------------------------|-------------------------------|
| Number of Patients visiting the Clinic, | 3554 |
| Number for whom the following operations were performed, | 2517 |
| Gold Fillings, | 1216 |
| Tin Fillings, | 1026 |
| Wood's Metal, | 12 |
| Hill's Stopping, | 96 |
| Amalgam, | 26 |
| Treatment and Filling Pulp Cavities, | 329 |
| Superficial Caries Removed, | 55 |
| Removal of Salivary Calculi, | 360 |
| Treatment of Periostritis, | 35 |
| Do Alveolar Abscess, | 45 |
| Do Inflammation of the Gums, | 36 |
| Do Partial Necrosis, | 24 |
| Do Irregularities, | 61 |
| Pivot Teeth Inserted, | 17 |
| Extraction of Teeth and Roots, | 2451 |
| Total, | 5839 |
| W. W. HOFFMAN, Reporter. | EDWIN T. DARBY, Demonstrator. |

MECHANICAL DEPARTMENT.

167 Patients were supplied with the following Artificial Dentures:

| | |
|---------------------------------------------|------|
| Full Upper and Under Sets, | 48 |
| Full Upper Sets, | 48 |
| Full Lower Sets, | 6 |
| Partial Upper Sets, | 66 |
| Partial Lower Sets, | 9 |
| Obturator, | 1 |
| Cases of Artificial Vela, | 3 |
| Teeth Mounted on Metal Base, | 371 |
| Do Hard Rubber Base, | 2289 |
| Whole Number of Gum Teeth, | 2225 |
| Do Plain Teeth, | 435 |
| Number of Teeth Mounted for Patients, | 2660 |

Depositing Sets.

| | |
|-------------------------------------------------------------|-----|
| 17 Full Upper Sets on Hard Rubber Base, No. of Teeth, | 233 |
| 1 Partial Set do do do | 5 |
| 6 Full Upper Sets on Metal Base, do do | 84 |
| 8 Partial Sets. do do | 51 |
| 3 Upper Sets on Metal Base, with Rubber, do | 39 |
| 1 Full Upper Set, Continuous Gum, do | 14 |
| 1 Obturator, Hard Rubber. | |
| 1 Regulating Plate, Metal. | |
| Gum Teeth do | 361 |
| Plain do do | 70 |
| Number Teeth on Depositing Cases, | 431 |

Total Number of Teeth Mounted,..... 3091

J. M. BARSTOW, Demonstrator.

The benediction, by the officiating clergyman, closed this interesting occasion. More than the usual number of members of the profession from a distance gave encouragement to teachers and students by their presence on the platform; and we hope that the number of these may yearly be increased. The closing exercises of the colleges in this city have this year been more than usually interesting, from this fact and from the social reunions that have taken place. The princely liberality of Dr. S. S. White in his magnificent entertainment to the colleges and the members of the profession generally, will have very much to do in infusing a large liberality, a broader charity and a clearer comprehension of the work yet to be accomplished. While a review of the past and present brings with it many regrets, many lamentable shortcomings in our mode and means of education, yet we find much to hope for, much that is satisfactory; and it can be truthfully said that the close of this session finds us further advanced both in the College and profession than at any former period. J. T.

Editorial.

THE REASON WHY.

A meeting of the Association of the Colleges of Dentistry was held at Philadelphia, March 20, 1867. Delegates were present from the following institutions: Baltimore College of Dental Surgery, Pennsylvania College of Dental Surgery, Ohio College of Dental Surgery, Philadelphia Dental College, and New York College of Dentistry. The principal business was the adoption of rules acted upon at the former preliminary session. This was proceeded with in harmony, and was characterized by the desire to work together for the general good. At the evening session a resolution was introduced by Professor Weiss, of the New York College of Dentistry, the character of which was to prohibit any institution from granting a diploma to any practitioner unless he should attend the regular course of lectures, under the rules previously adopted by the Association, except only to those who had made themselves eminent by valuable contributions. This resolution was modified by Professor Austin, of the Baltimore College, so that instead of a prohibition, the Association would disapprove of the conferment of the degree. The introduction of these resolutions were avowedly designed by their authors and supporters to strike at the following rule, which was in force in the Pennsylvania College of Dental Surgery:

“CANDIDATES FOR GRADUATION WHO HAVE NOT ATTENDED LECTURES.—Dentists who have been in continued practice since 1852, are eligible to be candidates for graduation without attendance on lectures. The candidate for graduation must present satisfactory evidence of his having

been in practice for the allotted time, also of his good standing in the profession: he must prepare a thesis upon some subject connected with the theory or practice of dentistry. He must present specimens of his workmanship. He must undergo a satisfactory examination by the Faculty, when, if qualified, he shall be recommended to the Board of Trustees, and if approved by them, shall receive the degree of Doctor of Dental Surgery. Of this class of graduates, the matriculation and diploma fees only are required."

The passage of the amended resolution was resisted by the Faculty of the Pennsylvania College, as they believed it was the province of colleges not only to teach, but to recognize and reward the merits of men who had by their labors contributed to the advancement of the interests of dentistry. That the indiscriminate granting of degrees was not desired; but that as far as they were concerned, they would abide by the judgment of the profession on the character, reputation and ability of those thus graduating. These and many other reasons, which space will not at present allow us to present, were offered for the non-passage of the resolution; but on a vote by Colleges, it was adopted. As this resolution was considered a censure on the past and prospective course of the Pennsylvania College of Dental Surgery, the Faculty unanimously severed their connection with the Association, and withdrew from the organization.

G. T. B.

THE AMERICAN DENTAL CONVENTION.

This Convention assembled on Tuesday, March 5th, 1867, in the City of New York. The number present from a distance would hardly warrant the high sounding title it goes by. With the exception of a few from the New England States and the neighboring counties in New York, the attendance was mainly composed of members of the profession living in New York City and Brooklyn. The committee appointed at the meeting in August to effect some change in the organization, made a report through their chairman, Dr. Rich; but this report was voted down, and it therefore will continue under the old name for at least another year, though, it must be confessed, sadly shorn of the proportions it once possessed. The present Convention, although not as large as it should have been, was still an interesting occasion, the discussions being animated, and entirely composed of practical matters. It seems to us that this Convention never can regain its national character under its present very defective mode of doing business, and its more defective organization. This fact was long since comprehended by others, and hence the organization of the American Dental Association.

To effect anything for the advancement of the profession, we must have a closely organized body, Standing Committees or Sections, to take up any

given subject, and carry it to the fullest development possible. If these committees are composed of earnest, faithful workers, something of value may result. In this Convention no committees were formed, and, of course, we had nothing but badly digested thoughts, with here and there a valuable idea cropping out, but so overloaded with words as to be shorn of half its value. One gentleman, who occupied the largest portion of the time of the Convention in explaining modes of filling teeth, very valuable twelve years ago, very distinctly asserted that they did not care to hear papers read; that *he* came there to talk, and talk he did.

As usual at such gatherings, there were present men who conceived they had reached the ultimate of knowledge, and were so far in advance of their cotemporaries, that they could assume the role of the dictator, and endeavor by coarseness of language to crush those who had not adopted their modes of doing things. We have had too much of this in our Annual Conventions. It cannot be expected that men will exert themselves to give their best thoughts to the profession, if, in attempting to do this, they are met by language better suited to a lower order of intellect than to the dignity of a National Convention, met for scientific deliberation.

We return our thanks for the many courtesies and hospitalities extended, and should have been most happy to have been present at the social gathering that closed the Convention, which we doubt not was a pleasure to all concerned.

J. T.

OBITUARY.

Died, at his residence in the City of Philadelphia, Sunday, January 27, 1867, JOHN R. McCURDY.

It may appear scarcely necessary to do more than announce the death of one so well known, as the reminiscences of the past will call him up in the minds of nearly the whole dental profession of this country; at least to that portion who were in practice previous to 1859. Yet it is hardly paying proper respect to the dead to allow one who was so intimately connected with the interests of dentistry to pass away with a notice of only three or four lines.

JOHN RUTER McCURDY was born in Philadelphia, December 29, 1817. His parents removed to a farm in Westmoreland County, Pennsylvania, in 1828, taking him along with them. He remained on the farm until he was 17 years of age, when he entered the wholesale drug store of Shinn & Sellers, in Pittsburg, continuing with them five years. In 1839 he came to Philadelphia, intending to follow the same business; but, receiving an offer from Mr. S. W. Stockton, who was then and for a number of years afterwards the principal manufacturer of teeth in this

country, he engaged with him, and in 1842 was sent to New York to assist Mr. A. Jones, who was then an agent for Mr. Stockton. He did not remain long in New York, but returned to Philadelphia to take charge of the sales rooms, being thus employed until December, 1845. In May, 1846, he entered into partnership with Messrs. Ashael Jones, of New York, and S. S. White, of Philadelphia, the style of the firm being Jones, White & Co., which was afterwards changed to Jones, White & McCurdy.

In the Spring of 1851 he visited Europe, having been appointed by the Governor of the State one of the Commissioners to the World's Fair at London. He traveled over Ireland, Scotland and a portion of the continent, forming the acquaintance of many prominent members of the profession, and establishing a large and profitable foreign business.

Finding his health failing, on account of unremitting devotion to business, he retired from the firm in May, 1859, having been an active member for sixteen years, during which time no person could have been more attentive to the business nor polite and just to the customers. In addition to the other business of the firm, he established and edited the *Dental News Letter*, a standard journal of dentistry, which maintained its reputation as long as it was published. Although retiring from active business, he still maintained a deep interest in the profession by attending regularly the dental conventions, and continued to contribute to the dental journals until his health prevented him.

He was one of the original Trustees of the Pennsylvania College of Dental Surgery, but resigned, as being so much engaged in his business he did not wish to take any more on his hands, but was again elected a member by the Trustees when he had more time to attend to it, and continued an active member until his death.

At a meeting of the Board of Trustees of the Pennsylvania College of Dental Surgery, held on the 26th of February, 1867, the following resolutions were passed:

Resolved, That we have heard with deep sorrow of the recent death of JOHN R. MCCURDY, ESQ., for many years a member of this Board. By his uniformly genial and kindly deportment he won the affection and esteem of all who knew him; and in his long connection with the dental profession he had become identified as the ardent advocate of its best interests. In his untimely death the Board feel that the College has lost one of its earliest and most steadfast friends.

Resolved, That we offer our warmest sympathies to his family in their bereavement, and that the Secretary be directed to convey to them a copy of these proceedings as a slight expression of our feeling on this mournful occasion.

He was not idle during his retirement; he entered twice the militia service and fared as a common soldier. It was to the exposure and

fatigue while encamped on the Potomac, after the battle of Gettysburg, that he attributed the commencement of the disease that terminated his life. He was elected and served for one year in the City Council, but declined a renomination. He was also appointed one of the County Commissioners. All these public positions he filled to the entire satisfaction of his friends; but these were not all the duties he performed; as a citizen, no one was more active; the vacancy will be long felt by those who met him frequently and knew him intimately; and his pastor writes: "He had been a consistent member of church from December 11, 1842, more than 24 years, was always attentive to its interests, and prompt to take part in promoting its prosperity."

Much might be written upon a character like his, but time and space will not permit it here. Long may his example remain as an incentive to others to follow in his footsteps.

T. L. B.

Our readers will perceive by a glance at our advertising columns, that the enterprising firms of Messrs. W. A. Duff & Co. and Rubencame & Stockton, have passed out of existence; but while this is true, we are pleased to note that this is merely a change in title, as they have associated themselves together under the style of the *Philadelphia Dental Manufacturing Company*, at their depot, 825 Arch street. The well-known character for business and energy of the gentlemen engaged in this enterprise, ensures for the Company a successful issue. A glance at their arrangements enables us to say with confidence that they are well prepared to respond to the varied wants of the dentist, either in artificial teeth, instruments, foils or material. The superintendent, Dr. J. J. Griffith, was for many years a successful dentist, Demonstrator of Mechanical Dentistry in the Pennsylvania College of Dental Surgery, and practical tooth manufacturer. He is therefore fully able to know what are the demands of the dental profession. As their intercourse with their patrons is ever characterized by an obliging disposition and desire to please, we bespeak for them a liberal patronage.

G. T. B.

CORRESPONDENCE.

BOSTON, *January 24th*, 1867.

DEAR SIR:—In the January number of the DENTAL TIMES, of which you are one of the editors, in commenting upon the questions at issue between the profession, appear some gross misstatements, which I desire to have publicly corrected. In the middle of the 118th page, you say "it has been stated that the committee appointed, &c., &c., were interested in the stock of the Vulcanite Company."

I beg to state that not a single share of the Company's stock was, or ever had been owned, by any member of that committee. Nor am I aware that but a single one of the delegates to the Convention ever was a stockholder of this Company.

At the bottom of said page, you say that our license contract requires parties to furnish the Company with "the names and *residences* of the persons to whom plates are furnished, and dates when furnished."

This is a gross mistatement; the Company requires simply the statement of the *number of plates* put up, *full or partial*, but *no name or personality whatever*. (I enclose copy of the only return required.)

The Company do not require the licensee to obligate *himself to keep a record* of his work, in order that he may be able to report the *number of pieces* to them.

You are *entirely welcome* to exert the *influence* of *your journal* in whatever direction it may seem to *your interest*, but I trust you will have no hesitation in making this correction in your forthcoming number.

The question will soon be tried, and no influence of journalists can control the result, which is simply a matter of evidence.

I remain yours, very truly,

JOSIAH BACON, *Treas.*

We give Mr. Josiah Bacon and the "Goodyear Vulcanite Company" in particular, the full benefit of our pages to contradict any erroneous assertions that may have been made in this journal. We are glad to learn thus officially, that not a single member of the Boston Commission were directly interested in the stock of the Company. It will doubtless disabuse many minds who have, since the report of that Commission, been of a contrary opinion. We would not willingly injure any one in his reputation, and such was not the intention of the article, although it has been so considered by some of the members of that Commission. We believed it high time the profession should know the facts in the case; and if the rumor had no foundation, these would, in all probability, be brought out by giving it publicity.

Mr. Bacon asserts that the statement made in the last number of the "TIMES," that the Company require the "names and residences of persons to whom plates are furnished, and dates when furnished," is a *gross misstatement*," and that "the Company requires simply the statement of the *number of plates* put up, *full or partial*, but *no name or personality whatever*."

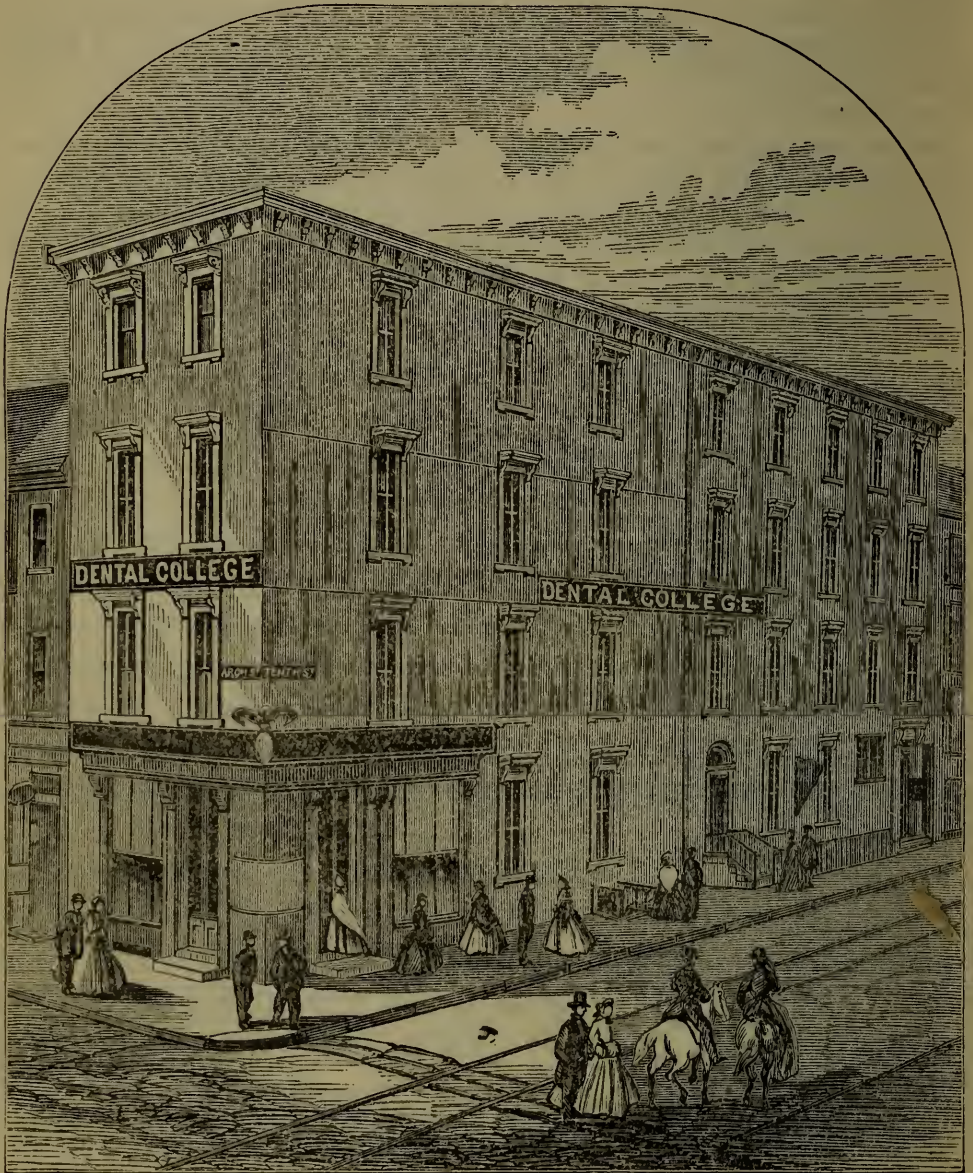
We would ask Mr. Bacon whether they do not leave with their licensees a blank-book to register cases made, and whether at the head of the first page is not printed the regulations of the Company, in precisely the language given in the last number of the TIMES, and quoted above? and that this book must be at all times free to the inspection of the agent. We presume he will not dare to contradict this fact.

We agree with Mr. Josiah Bacon, that the Courts must settle this controversy, and no amount of words in journals or out of them, will influence this decision; neither will any amount of words from the Rubber Company or its agents, affect the course of this journal; and here we leave the subject.

J. T.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

THE ELEVENTH ANNUAL SESSION, 1866-'67.



TRUSTEES.

| | |
|----------------------------|--------------------------|
| HENRY C. CAREY, PRESIDENT, | GEORGE TRUMAN, M. D., |
| W. L. ATLEE, M. D., | S. DILLINGHAM, D. D. S., |
| DANIEL NEALL, D. D. S., | G. R. MOREHOUSE, M. D., |
| ELLESIE WALLACE, M. D., | THOMAS WOOD, |
| BENJAMIN MALONE, M. D., | J. R. McCURDY, |
| W. W. FOCHE, D. D. S., | CHARLES HAMILTON, SEC'Y. |

FACULTY.

J. D. WHITE, D. D. S.,

EMERITUS PROFESSOR.

T. L. BUCKINGHAM, D. D. S.,

PROFESSOR OF CHEMISTRY AND METALLURGY.

E. WILDMAN, M. D., D. D. S.,

PROFESSOR OF MECHANICAL DENTISTRY.

G. T. BARKER, D. D. S.,

PROFESSOR OF PRINCIPLES OF DENTAL SURGERY AND THERAPEUTICS.

W. S. FORBES, M. D., D. D. S.,

PROFESSOR OF ANATOMY AND PHYSIOLOGY.

JAMES TRUMAN, D. D. S.,

PROFESSOR OF DENTAL PHYSIOLOGY AND OPERATIVE DENTISTRY.

EDWIN T. DARBY, D. D. S.,

DEMONSTRATOR OF OPERATIVE DENTISTRY

J. M. BARSTOW, D. D. S.,

DEMONSTRATOR OF MECHANICAL DENTISTRY.

The Lectures to the Regular Course commence on the 1st of November and continue until the 1st of March.

During the last two weeks of October, preliminary Lectures are delivered, one each day.

The Rooms for Operative and Mechanical Dentistry are open from the 1st of October and throughout the session, under the supervision of the Demonstrators.

The Dissecting Room, under the superintendence of the Professor of Anatomy and Physiology, is open during the session.

| | | |
|---------------------------------------------------------------|----------------|--------------|
| Fees for the Course, (Demonstrators' Ticket included,) | - | \$100 |
| Matriculation, (paid but once,) | - - - - | 5 |
| Diploma Fee, | - - - - | 30 |

T. L. BUCKINGHAM, Dean,

C. P. REESS, Janitor.

243 North Ninth St., Philadelphia.

P. S.—Board may be had at from \$3.50 to \$6.00 per week.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

The Eleventh Annual Session, 1866-'67.

The eleventh annual session of the Pennsylvania College of Dental Surgery will commence on the first of November, and continue until the first of March. Preliminary lectures will, however, be delivered each day during the latter half of the month of October. The Dispensary and Laboratory of the College will also be open from that time, where ample opportunities will be afforded for the prosecution of the practical part of the profession under the daily supervision of the Demonstrators, who are gentlemen of known integrity and thorough capability. During October, as well as the entire session, a clinical lecture will be delivered, and operations performed by one of the Professors every Saturday afternoon.

The course is so arranged that fifteen lectures are delivered each week, on the various branches taught in the school. A synopsis of the manner in which each department is treated will be found under the head of the different chairs.

These lectures occupy about the average time of three hours each day. In addition, four hours are daily spent by the student in actual practice. With this object in view, the operating rooms are furnished with twenty chairs, so arranged as to command the best light, and all the appliances necessary for comfort and ease. To these chairs the students are assigned in classes, and certain hours are fixed for each member of the class to operate.

Each student is required to provide his own instruments, (except those for extracting,) and to operate with them. He is expected to keep them in perfect order, and for that purpose is provided with a table in which they can be locked up when not in use. As the operations performed at the College are entirely gratuitous, a superabundance of patients invariably present themselves.

In the mechanical department, every process known in the profession, which has any value to the mechanical dentist, is fully taught; and receipts of valuable compounds are freely imparted. All the conveniences are at hand in the Laboratory for the preparation of metals, manufacture of teeth, (single and in blocks,) mounting, etc.; and the student is required to go through all the necessary manipulations connected with the insertion of artificial teeth—from taking the impression to the thorough construction of the denture, and proper adjustment of it in the mouth of the patient.

In addition to the facilities afforded by the College for a thorough course of instruction in the theory and practice of Dentistry, the celebrated hospitals and clinics of the city constantly enable the student to witness

various important surgical operations which are highly interesting and instructive. The medical and surgical clinics of the Blockley Hospital, in particular, one of the largest eleemosynary establishments in the world, are open to Medical and Dental students, free of charge. The staff of this institution is composed of some of the most eminent physicians and surgeons of Philadelphia.

COURSE OF LECTURES.

CHEMISTRY AND METALLURGY.

The course of instruction from this chair will commence with the consideration of the imponderable substances.

The laws that govern the imponderable bodies will next claim attention, with some notice of symbols or chemical notations. Individual elements, and the compounds resulting from their combinations, will then be considered. Organic chemistry will receive its full share of attention.

The course will be illustrated by diagrams and such experiments as can be performed before the class.

DENTAL PHYSIOLOGY AND OPERATIVE DENTISTRY.

The lectures in this department will embrace the Physiological Anatomy of the teeth, general and microscopical, in addition to a minute and careful description of the various operations performed by the dental practitioner.

The microscope, models and diagrams, will be employed in illustration.

At the Clinic the incumbent of this chair will also demonstrate before the class the various operations described in his course of lectures.

MECHANICAL DENTISTRY.

The instruction from this chair will embrace the entire range of manipulations legitimately connected with the laboratory, arranged in two divisions—Mechanical Dentistry proper, and that to which has been applied the appellation of the Plastic department.

I. *Mechanical dentistry proper* will include everything appertaining to the construction of dental substitutes, passing through the different stages of preparation, from taking the impression, to the completion and proper adjustment of the case in the mouth, conjointly with features, expression of countenance, enunciation, etc. It will likewise embrace the metallurgic treatment of the various metals employed, the preparation of plate and wire, the alloying of gold, together with the *alloys* used, as well as those designated as solders.

II. This division will comprise all that appropriately belongs to the manufacture of porcelain or mineral teeth—single teeth, block-work, continuous gum-work, vulcanite, etc. The materials, their preparation, compounds and uses, will be specially regarded.

All new inventions, modifications, and improvements, in this branch of the art, will in place receive due attention and investigation.

PRINCIPLES OF DENTAL SURGERY AND THERAPEUTICS.

The lectures delivered from this chair will embrace General Pathology, Dental Pathology, the Pathological Relations of the Teeth to other parts of the System, together with a minute description of all special diseases that have any relation to Dental Surgery, or of interest to the Dentist.

They will also include a careful examination of therapeutic agents and their general application. Their indications in the medical and surgical treatment of diseases of the mouth, both idiopathic and symptomatic, will be fully illustrated, and also the general hygienic rules and principles which come within the province of the practitioner.

ANATOMY AND PHYSIOLOGY.

The instruction in this department will embrace a plain and comprehensive view of the structure and functions of the Human Economy. The valuable anatomical preparations of the incumbent of this chair, (consisting of Papier Mache manikins, models in wood, drawings, wet and dry preparations,) will enable him to fully illustrate his course. With the same object, vivisections on the lower animals will also be employed.

The special relations of this branch to the wants of the dentist will be kept steadily in view, and such descriptions of the natural history, microscopical structure, connections, &c., of the teeth, as their importance demands, will be given.

The great facilities for the study of practical anatomy, to be found in the city of Philadelphia, obviate the necessity of providing a dissecting-room in the College. For the usual fee of \$10, the student can have access to one of several well-ordered and well-supplied dissecting-rooms.

QUALIFICATIONS FOR GRADUATION.

The candidate must be twenty-one years of age. He must have studied under a private preceptor at least two years, including his course of instruction at the College. Attendance on two full courses of lectures in this institution will be required, but satisfactory evidence of having attended one full course of lectures in any respectable dental or medical school, will be considered equivalent to the first course of lectures in this College. Also satisfactory evidence of having been in practice five years, inclusive of the term of pupilage, will be considered equivalent to the first course of lectures. The candidate for graduation must prepare a thesis upon some subject connected with the theory or practice of dentistry. He must treat thoroughly some patient requiring all the usual dental operations, and bring such patient before the Professor of Operative Dentistry. He must, also, take up at least one artificial case, and after it is completed, bring his patient before the Professor of Mechanical Dentistry. He must, also, prepare a specimen case to be deposited in the College collection. The operations must be performed, and the work in the artificial cases done, at the College building. He must also undergo an examination by the Faculty, when, if found qualified, he shall be recommended to the Board of Trustees; and, if approved by them, shall receive the degree of Doctor of Dental Surgery.

Candidates for graduation who have not attended lectures.—Dentists who have been in continued practice since 1852 are eligible to be candidates for graduation without attendance on lectures. The candidate for graduation must present satisfactory evidence of his having been in practice for the allotted time, also of his good standing in the profession, he must prepare a thesis upon some subject connected with the theory or practice of dentistry. He must present specimens of his workmanship. He must undergo a satisfactory examination by the Faculty, when, if qualified, he shall be recommended to the Board of Trustees, and if approved by them, shall receive the degree of Doctor of Dental Surgery. Of this class of graduates, the matriculation and diploma fees only are required.

TEXT BOOKS AND WORKS OF REFERENCE.

Wilson's, or Leidy's Sharpey & Quains' Anatomy; Carpenter's Physiology, or Dunglison's Human Physiology; United States Dispensatory; Mitchell's Materia Medica; Fownes' Elements of Chemistry; Regnault's Chemistry; Lehmann's Pysiological Chemistry; C. J. B. Williams' Principles of Medicine; Wood's Practice; Tomes' Dental Physiology and Surgery; Harris' Principles and Practice; Taft's Operative Dentistry; Richardson's Mechanical Dentistry; Paget's Surgical Pathology, or other standard works on the subject.

DR. B. WOOD'S PLASTIC METALS FOR DENTAL USE

MANUFACTURED BY THE PROPRIETOR, ALBANY, N. Y.

WOOD'S PLASTIC METALLIC FILLING. (Patented March 20, 1860, and September 4, 1864.) Price \$3 an ounce, Troy weight. Put up in 1 oz., $\frac{2}{3}$ oz. and $\frac{1}{2}$ oz., ingots, each stamped with the name of the Patentee and the date of both patents.

WOOD'S AMALGAMATED FILLING.—\$2 an ounce.—It contains a small proportion of mercury, and the ingots are accordingly stamped "AMALGAMATED."

WOOD'S PLASTIC FUSIBLE METAL.—For Mechanical Dentistry.—Repairing Rubber Work—and for Solder, etc.—(Patent March 20, 1860.) \$1.50 per oz.—This is not designed for filling teeth—requiring too high a heat, &c. It is distinguished from the "Filling" by the patent mark.

WOOD'S SILVER AMALGAM.—In filings, \$4 an ounce. It requires less mercury than the ordinary preparations, and is superior in all the other requisites. Sample packages of $\frac{1}{4}$ oz., at \$1.

PLUGGERS FOR USING THE PLASTIC METALLIC FILLING, &c.—In sets of 8 or 12, steel handles, at \$3 and \$4.50 a set, respectively. Each instrument is stamped—"WOOD'S PATENT, FEB. 28, 1865," any offered for sale that are not so stamped are infringements.

All letters should enclose stamps for return postage.

ADDRESS

B. WOOD, M. D., Dentist,
ALBANY, N. Y

ARTIFICIAL TEETH.



PRIZE MEDAL

AWARDED TO

JOHNSON & LUND,

AT THE

**WORLD'S FAIR IN PRUSSIA,
1865,**

FOR EXCELLENCE IN THE MANUFACTURE OF ARTIFICIAL TEETH.

The attention of Dentists is called to our late patterns of

BLOCK TEETH FOR RUBBER BASE.

In claiming for them

BEAUTY, NATURAL APPEARANCE & TOUGHNESS,

We are endorsed by all who have given them a trial, as well as by the fact that we have just received a PRIZE MEDAL at the World's Fair in Prussia, for excellence in the manufacture of Artificial Teeth.

Our assortment of Block Teeth for Rubber Base is quite varied.

PRICES.

| | |
|------------------------------------------|-----------|
| Blocks or Sections for Rubber Base,..... | 20 cents. |
| Single Gum Teeth, " " | 20 " |
| " " Plate Work,..... | 20 " |
| Plain Teeth, for Plate Work..... | 10 " |
| " " for Rubber Work..... | 10 " |
| Pivot Teeth,..... | 8 " |

NOTICE.

Our Teeth for Rubber Work have DOUBLE-HEADED PINS. These are distinct and well formed. One of them is really inserted in the tooth, the other is at the extremity of the pin, OUTSIDE. We thus secure a firm resistance in the body of the tooth, and ample space for the retention of the rubber around the pin outside. Our customers pronounce them "Excelsior."

A Liberal Discount made to Wholesale Dealers.

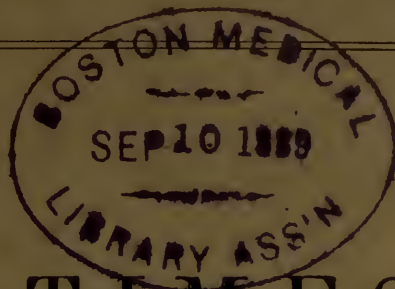
JOHNSON & LUND.

VOL. III.

JULY, 1865.

NO. 1.

THE



DENTAL TIMES,

A

QUARTERLY JOURNAL

OF

DENTAL SCIENCE.

EDITED AND PUBLISHED BY

THE FACULTY

OF THE

Pennsylvania College of Dental Surgery.

PHILADELPHIA.

PRICE \$1.00 A YEAR, IN ADVANCE.

CONTENTS.

| | PAGE |
|-----------------------------------------------------------------------|--------|
| Caoutchouc, by E. Wildman, M. D., D. D. S., - - - - - | 1 |
| Diseases of the Maxillary Sinus, by George T. Barker, D. D. S., - - - | 12 |
| From my Note Book, by Dr. H. Scott, - - - - - | 15 |
| Accidentals, by A. B., - - - - - | 16 |
| A Resume of Metals used in Filling, by James Truman, D. D. S., - | 17 |
| Temperature and Pressure in Vulcanizing, by A. Lawrence, - - - | 24 |
| Nitrous Oxide as an Anæsthetic, by H. C. Rockwell, D. D. S., - - - | 26 |
| Dental Suggestions, by John D. Wingate, D. D. S., - - - - - | 27 |
| A Strange Case, by H. Scott, M. D., - - - - - | 28 |
| Iron, by T. L. Buckingham, D. D. S., - - - - - | 29 |
| Obituary—Dr. Wm. D. Vinal, - - - - - | 30 |
| American Dental Association—American Dental Convention, - - - | 31 |
| Editorial, - - - - - | 31, 32 |

TO THE PROFESSION.

In issuing the "DENTAL TIMES," we desire to make it of interest to the mass of practitioners. To this end we earnestly solicit from our professional friends, communications on any branch of our specialty. To those who hesitate because their limited time incapacitates them for writing long or elaborate articles, we would say, give us the facts and the method, and we will lay them before our readers so that all will understand and many be instructed.

Persons desiring to become subscribers, can do so by remitting the price of subscription, *one dollar per annum*, with name and address, to Dr. T. L. Buckingham, 243 North Ninth street, Philadelphia.

As we desire to keep a corrected list of the dentists in the United States, our friends and subscribers will please notify us when changing their location.

DEMONSTRATORS' REPORT.

ALL OPERATIONS IN THE CLINICS OF THIS INSTITUTION ARE PERFORMED
GRATUITOUSLY FOR THE BENEFIT OF THE **POOR ONLY.**

SESSION OF 1864-'65.

OPERATIVE DEPARTMENT.

| | |
|---------------------------------------------------------------|-------|
| Number of Patients visiting the Clinic,..... | 2600 |
| Number for whom the following operations were performed,..... | 1487. |
| Gold Fillings,..... | 627 |
| Tin do | 696 |
| Wood's Metal,..... | 9 |
| Hill's Stopping,..... | 14 |
| Amalgam,..... | 12 |
| Treatment and Filling Pulp Cavities,..... | 176 |
| Superficial Caries Removed,..... | 6 |
| Removal of Salivary Calculi, | 57 |
| Treatment of Periostitis,..... | 28 |
| Do Alveolar Abscess,..... | 10 |
| Do Inflammation of the Gums,..... | 5 |
| Do Partial Necrosis,..... | 15 |
| Do Irregularities, | 10 |
| Pivot Teeth inserted,..... | 2 |
| Extraction of Teeth and Roots, | 2010 |
| Total,..... | 3677 |

JAMES TRUMAN, Demonstrator.

MECHANICAL DEPARTMENT.

154 Patients were supplied with the following Artificial Dentures :

| | |
|-------------------------------------|------|
| Whole Sets of Teeth, | 31 |
| Full Upper Sets, | 48 |
| Full Lower Sets, | 2 |
| Full Upper Set, Blocks,..... | 1 |
| Partial Upper Sets, | 76 |
| Do Lower Sets,..... | 4 |
| Obturator*,..... | 2 |
| Teeth Mounted on Metal Plates,..... | 528 |
| Do Hard Rubber Base,..... | 1481 |
| Whole Number of Gum Teeth,..... | 902 |
| Do Plain Teeth,..... | 1107 |
| Do Teeth Mounted,..... | 2009 |

J. M. BARSTOW, Demonstrator.

* These were made for soldiers having lost their teeth and adjacent bones from gunshot wounds.

MATRICULANTS.

NINTH ANNUAL SESSION, 1864-'65.

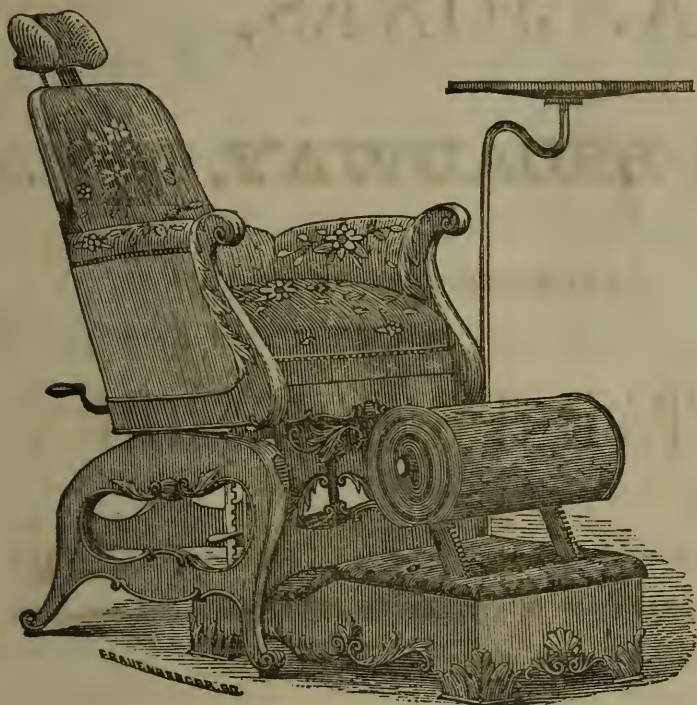
| | | | |
|---------------------------------|----------------|--------------------------|----------------|
| ROBERT JAS. ADAMS,..... | New York. | C. B. McGRATH,..... | Pennsylvania. |
| BENJAMIN J. BING,..... | Maryland. | FRANCIS MIGNOTTE,..... | Cuba. |
| SAMUEL A. BEECHER,..... | Missouri. | CHARLES A. MILBANK,..... | New York. |
| HENRY BLAKENEY,..... | New York. | WM A. NEWLAND, JR.,..... | Pennsylvania. |
| HOWARD BASSETT,..... | New Jersey. | P. PRETERRE, M. D.,..... | New York. |
| JOSE BERTRAM,..... | Cuba. | JAMES PARSONS,..... | Wisconsin. |
| GASPER A. BETANCOURT,..... | " | ABRAM PRATT,..... | Pennsylvania. |
| JOHN R. BUCKINGHAM,..... | Pennsylvania. | S. G. PERRY,..... | New York. |
| EDWIN C. BAXTER, D. D. S.,..... | Maine. | JARED A. PERKINS,..... | Massachusetts. |
| J. WESLEY CLEMSON,..... | Pennsylvania. | JAMES R. RONEY,..... | Pennsylvania. |
| AUGUST CULMAN, M. D.,..... | Bavaria. | THOMAS ROBINSON,..... | Delaware. |
| P. M. CHRISTIE,..... | Pennsylvania. | THOMAS ROBSON, JR.,..... | Pennsylvania. |
| FREDERICK K. CROSBY,..... | Connecticut. | H. C. ROCKWELL,..... | New York. |
| EDWIN T. DARBY,..... | New York. | H. P. ROBERTS,..... | Illinois. |
| E. S. DAVENPORT,..... | " | H. C. REGISTER,..... | Maryland. |
| HORACE ENOS,..... | Pennsylvania. | A. EMORY STREET,..... | New Jersey. |
| MICHELE FICHERA,..... | Sicily. | JOHN SHELDON,..... | New York. |
| SIMON FRAU,..... | Cuba. | C. S. STOCKTON,..... | New Jersey. |
| JOHN N. FARRAR,..... | Massachusetts. | WILLIAM SMEDLEY,..... | Pennsylvania. |
| ENOCH S. FOGG,..... | Pennsylvania. | GEORGE B. SANFORD,..... | New York. |
| JOHN FRASIER,..... | Maryland. | WM. H. SCHOLL,..... | Pennsylvania. |
| SIMEON H. GUILFORD,..... | Pennsylvania. | WM. H. TRUEMAN,..... | " |
| JESSE C. GREEN,..... | " | A. P. TOMPKINS,..... | " |
| CANBY HATHAWAY,..... | " | J. J. VANDERFORD,..... | Maryland. |
| JAMES O A. JOHNSON,..... | New Jersey. | CARLOS DEL VILLAR,..... | Cuba. |
| JONAS Y. KERN,..... | Pennsylvania. | AUGUSTIN DE VARONA,... | " |
| DANIEL J. LALLY,..... | New York. | J. A. WOODWARD,..... | Pennsylvania. |
| WM. R. LINEAWEAVER,..... | Pennsylvania. | J. B. R. WRIGGINS..... | New Jersey |
| JOHN LYNAM, M. D.,..... | Ireland. | | |

GRADUATES, 1864-'65.

| | | |
|----------------------------|---------------------|-------------------------------------------|
| GASPER A. BETANCOURT,.... | Cuba,..... | Filling Pulp Cavities and Roots of Teeth. |
| SAMUEL A. BEECHER,..... | Missouri,..... | Sulphuric Ether. |
| HOWARD BASSETT,..... | New Jersey,..... | Diseases Incident to First Dentition. |
| BENJAMIN J. BING,..... | Maryland,..... | Dentistry, a Science. |
| J. WESLEY CLEMSON,..... | Pennsylvania,..... | Predisposing Causes to Dental Caries. |
| AUGUST CULMAN, M. D.,..... | Bavaria,..... | Neuralgia of the Trigemini. |
| EDWIN T. DARBY,..... | New York,..... | Dentistry, a Profession. |
| HORACE ENOS,..... | Pennsylvania,..... | Vulcanized Rubber. |
| SIMON FRAU,..... | Cuba,..... | Ether. |
| MICHELE FICHERA,..... | Sicily,..... | Filling Teeth. |
| T. N. FARRAR,..... | Massachusetts,..... | Intermittent and Hysterical Neuralgia. |
| SIMON GUILFORD,..... | Pennsylvania,..... | Vascularity of Dentine. |
| JAMES O. A. JOHNSON,..... | New Jersey,..... | Extraction of Teeth. |
| JOHN LYMAN, M. D.,..... | Ireland,..... | Military Dentistry. |
| C. A. MILBANK,..... | New York,..... | Diseases Attending First Dentition. |
| CHAS. B. McGRATH,..... | Pennsylvania,..... | Hysteria. |
| WM. A. NEWLAND,..... | "..... | Fractures of the Teeth. |
| ABRAM PRATT,..... | "..... | Odontology. |
| S. G. PERRY,..... | New York,..... | Inflammation. |
| P. PRETERRE, M. D.,..... | "..... | Development of Teeth. |
| JARED A. PERKINS,..... | Massachusetts,..... | Cause of Dental Caries. |
| THOS. ROBINSON,..... | Delaware,..... | Irregularities of the Permanent Teeth. |
| THOMAS ROBSON, JR.,..... | Pennsylvania,..... | Rubber. |
| HEWLETT. C. ROCKWELL,..... | New York,..... | Nitrous Oxide. |
| A. EMORY STREET,..... | New Jersey,..... | Entire Artificial Dentures. |
| W. H. SCHOLL,..... | Pennsylvania,..... | Indurated Rubber. |
| GEO. B. SANFORD,..... | New York,..... | Teeth and their Diseases. |
| J. B. R. WRIGGINS,..... | New Jersey,..... | Caries of the Teeth. |
| J. A. WOODWARD,..... | Pennsylvania,..... | Treatment of Exposed Dental Pulp |

R. W. ARCHER'S IMPROVED DENTAL CHAIR.

Patented September 4, 1860.



This Dental Operating Chair is fast coming into universal use. It is the most *convenient*, the most *durable*, and the cheapest Chair in use. For complete description and list of prices, send for catalogue to

R. W. ARCHER, Rochester, N. Y.
Sold at all the principal Dental Depots in this country.

CHARLES ABBEY & SONS, MANUFACTURERS OF DENTISTS' FINE GOLD AND TIN FOIL, NOS. 228 & 230 PEAR STREET, PHILADELPHIA.

The attention of Dentists is invited to our **FINE GOLD FOIL**, which is prepared under our constant personal supervision. Our Nos. are 4, 5, 6, 8 and 10.

We are also manufacturing an **ADHESIVE FINE GOLD FOIL**, Nos. 4, 5 and 6.

ALL our Gold Foil is manufactured from **ABSOLUTELY PURE GOLD**, prepared expressly for the purpose, with great care, by ourselves.

DENTISTS' REFINED TIN FOIL CONSTANTLY ON HAND.

Address

CHARLES ABBEY & SONS,

Philadelphia.

A. JONES,
No. 724 BROADWAY, N. Y.,

WHILE THANKING THE

DENTAL PROFESSION

For the very liberal patronage they have extended to him for the last twenty-five years, begs leave to say, that he still continues his business as usual at the above number, where may be found

All Articles in the Dental Line,

Of his own, and other manufacturers, of the most

SUPERIOR QUALITY,

AND

At the Most Favorable Prices.

All orders from abroad will be punctually and thoroughly attended to.

TO DENTISTS.

THE CHEAPEST DENTAL DEPOT IN THE CITY

FOR THE

Latest Improved Teeth,

OF ALL KINDS,

FORCEPS, PLUGGERS, SCALERS, EXCAVATORS, BURRS,
CHAIRS, SPITTOONS, LATHES,

Together with a General Assortment of all kinds of

DENTAL INSTRUMENTS, MATERIALS, &C.

WHOLESALE AND RETAIL, AT

JOHN KLEIN'S

No. 22 North Eighth St., Philadelphia.

N. B.—One price, and all goods warranted as represented. Cash orders promptly filled.

NEALL, McCURDY & NEALL,

SUCCESSORS TO

SAMUEL W. NEALL,

MANUFACTURERS OF PORCELAIN TEETH

AND

DENTISTS' MATERIALS.

DENTAL DEPOT,

534 Arch St., south-east corner of Sixth,

PHILADELPHIA, PENNA.

LUTHER'S ADAMANTEAN WHITE-FILLING.

This invaluable preparation is now used by, and meets the approbation of intelligent and experienced Dentists in every State in the Union as being the only Self-hardening filling known that will retain its integrity and metallic color, without turning black and discoloring the teeth, and as being in all respects unequalled as a substitute for Gold, in cases where the latter is inadmissible, on account either of the great extent of the decay, the extreme tenderness of the tooth, the difficulty of access to the cavity, or from motives of economy.

| | | | | |
|-----------------------------------|---|---|---|---------------|
| Packages containing 1 oz., | - | - | - | \$3.00 |
| Do. do. 6 dwts., | - | - | - | 1.00 |

Sent, post paid, on receipt of money. For Circular enclose return postage. Address

H. GILES LUTHER, Dentist,

84 East Twenty-second Street,

NEW YORK.

ROBERTS' OS-ARTIFICIAL

A substitute for AMALGAM in filling badly decayed teeth; and used for resetting PIVOT TEETH in badly decayed roots; also for filling over SENSITIVE DENTINE to destroy sensibility, and as a non-conductor of heat, and for many other DENTAL PURPOSES.

For sale by all dealers in *Dental Materials* and by the undersigned.

One-fourth ounce packages, with directions, sent by mail free of postage, on receipt of \$1.

C. H. ROBERTS, M. D.,

POUGHKEEPSIE, N. Y.

BLOCK TEETH AND VULCANITE.

I would respectfully inform the DENTAL PROFESSION that my Laboratory has been REMOVED TO 100 NORTH TENTH STREET, where, after having made considerable improvements in my style of carving and enamels, with assistants also, I am now enabled to execute all orders with promptness and despatch.

Dentists wishing to try Vulcanite Base, can have a few cases made at a reduced price.

WM. R. HALL,

100 North Tenth Street, Philadelphia.

HORATIO G. KERN,

MANUFACTURER OF

SURGICAL & DENTAL INSTRUMENTS, FILES, &C.

The subscriber would again remind the profession that he still continues to manufacture all kinds of INSTRUMENTS, DENTAL FILES, &C.

From the flattering testimonials he has received, (of which a few are appended,) of the superior quality of his Instruments and Files, he feels confidence in his ability to produce an article fully equal to any made.

Assiduous attention to the details of the business, (with an experience of thirty years,) has enabled him to make many improvements in the *adaptation* to the specific purpose; and, as the success of an operation depends, in some degree, on the adaptation of the instruments to the particular character of the operation, it needs no argument to convince those wishing to procure instruments, of the importance of purchasing the manufacture of those of long and well established reputation. Any orders tendered him will be promptly attended to. Illustrated catalogues will be furnished on application.

HORATIO G. KERN,

No. 25 North Sixth Street, Philadelphia.

TESTIMONIALS.

501 NORTH SEVENTH STREET, *Philadelphia, June 8th, 1863.*

H. G. KERN—*Dear Sir*—The excavators which you handed me some days since I have had in constant use, and take great pleasure in stating that I believe them to be a superior article, both in their ability to retain a sharp cutting edge, and withstand the force essential to the operation.

Yours, &c.

C. N. PEIRCE, D. D. S.

MR. H. G. KERN—*Dear Sir*—The excavators recently manufactured by you have been used with the utmost satisfaction. I can give them an unqualified recommendation. Yours, respectfully,

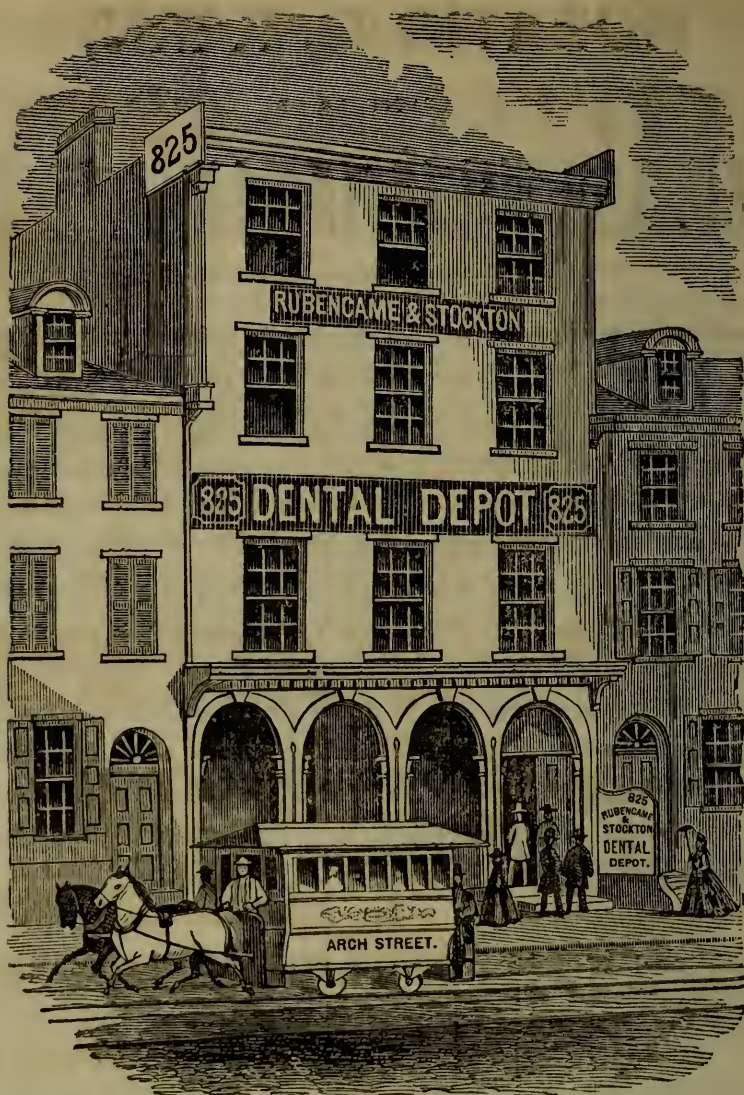
June 26th, 1863.

GEO. T. BARKER, D. D. S.

MR. H. G. KERN—*Dear Sir*—The last excavators obtained from you are of a very superior quality. I can recommend them as being equal to any I have ever used.

T. L. BUCKINGHAM, D. D. S.

June 25h, 1863.



RUBENCAME & STOCKTON, DENTAL DEPOT.

825 ARCH STREET,

PHILADELPHIA, PA.

Manufacturers of PORCELAIN TEETH, GOLD AND TIN FOILS.

Dealers in every variety of INSTRUMENTS AND MATERIALS required by the Dentist. All orders carefully and promptly filled. Write plainly, giving name and residence in full, and address

RUEBNCAE & STOCKTON, 825 Arch Street, Phila.

CARD.

The undersigned having connected himself with Messrs. RUBENCAME & STOCKTON, as a Special Partner, in the manufacture of Porcelain Teeth, Dental Material, etc., is desirous of renewing the business intercourse with the Dental Profession, which ill-health compelled him to suspend some years since.

He pledges himself that nothing shall be wanting on his part to make these renewed relations as pleasant and as satisfactory as those heretofore maintained.

Respectfully,

JOHN R. McCURDY.

RUBENCAME & STOCKTON.

ARTIFICIAL TEETH.

The subscribers take pleasure in stating, that, as a result of years of application to this particular branch of business, and by the right use of means, men and material, they are now able to produce as good an assortment of Artificial Teeth, as can be found in the country, embracing those used for both Rubber and Plate work of every variety, in size, shape and shade, and combining with all, strength and adaptation. Particular attention is directed to our more recent make, among which will be found styles and shades to suit the most fastidious. Scores of certificates are in our possession, showing the appreciation of our numerous friends, and testifying their entire satisfaction. Parties sending casts by mail, express or otherwise, can have teeth properly selected for them and receive prompt returns.

Liberal discount to dealers. Address

**RUBENCAME & STOCKTON,
825 ARCH STREET, PHILA.**

GOLD FOIL.

We are prepared to supply the Profession with a very superior quality of our own make of Gold Foil. This Foil is made of double-refined gold, and is soft and adhesive. It is put up carefully in books, each of which contains the full weight marked upon it. Below we give a few certificates, attesting its good working qualities, and its thorough fitness for even the nicest operations.

RUBENCAME & STOCKTON.

CERTIFICATES.

PHILA., June 21, 1865.

RUBENCAME & STOCKTON—*Gentlemen*—The No. 4 Gold Foil lately procured from you, works well; equal, I think, to any I have used.

Yours, &c., C. N. PEIRCE, 501 N. Seventh St.

PHILA., June 20, 1865.

MESSRS. RUBENCAME & STOCKTON—I have used your Gold Foil since it was first put in the market, and can recommend it as equal, if not superior, to any I have ever used.

T. L. BUCKINGHAM, 243 N. Ninth Street.

MESSRS. RUBENCAME & STOCKTON—*Gents*.—I have used your Gold Foil for months past, and being pleased with its good working qualities, I can have no hesitation in expressing my approbation of it in this way.

PHILA., June 26, 1865.

C. E. HOPKINS, 1115 Walnut Street.

PHILA., June 27, 1865.

MESSRS. RUBENCAME & STOCKTON—*Gents*.—In response to your inquiry as to my opinion of your Gold Foil, I take pleasure in stating that after a trial of most of the prominent Foils in the market, I now give yours a decided preference. All that I have obtained has possessed the following prominent qualities, adhesiveness, ductility and uniformity, the last being a quality which few gold foils can claim. Yours, truly, GEORGE T. BARKER, 1111 Arch St.

RUBENCAME & STOCKTON.

TIN FOIL.

We have also for sale a superior article of CHEMICALLY PURE TIN FOIL, of our own make, which we believe will give full satisfaction. Price per book, 50 cents.

RUBENCAME & STOCKTON.

BARKER'S ETHEREAL PREPARATION.

The subscribers are the only persons duly authorized by the inventor, to manufacture the above preparation. Put up in two ounce bottles, with brush. Price 50 cents. For sale by

RUBENCAME & STOCKTON.

VULCANIZERS.

Whitney's one, two and three Case, with Thermometer, Lamp or Gas Burner, Flasks and Wrenches complete; also, an assortment of Hayes' Boilers and Ovens, ready for use.

RUBENCAME & STOCKTON.

RUBBER.

| | | | |
|------------------------------------------------|----|---|--------|
| American Hard Rubber Company's Gum, per pound, | - | - | \$5 00 |
| Gutta Percha, for impressions, | do | - | 3 00 |

RUBENCAME & STOCKTON.

RUBBER FILES.

A full assortment of Half-round and Double-end Files for rubber work, smooth, medium and course, different lengths, with and without handles, at prices ranging from 25 to 50 cents each.

RUBENCAME & STOCKTON.

RUBBER SCRAPERS.

We have just received a full assortment of SCRAPERS, of every variety and shape desirable, well made. Price 30 cents.

RUBENCAME & STOCKTON.

EXCAVATORS, PLUGGERS AND FORCEPS.

A full assortment of the best makes of instruments, embracing all the new and desirable patterns, constantly on hand and for sale by

RUBENCAME & STOCKTON.

LIQUID SILEX.

We have prepared a quantity of this material, for mending broken teeth, closing crevices between the blocks, and for varnishing casts to prevent the plaster from adhering to the rubber. Price per bottle, 25 cents.

RUBENCAME & STOCKTON.

College Avenue Anatomical School,

IN CHANT ST., OPPOSITE ST. STEPHEN'S CHURCH,

PHILADELPHIA.

WINTER ANNOUNCEMENT OF 1865-66.

The DISSECTING HALL AND OPERATIVE ROOMS of this well-established Institution will be open as usual on the 1st of September, for the ensuing session.

During the months of September and October several preliminary lectures will be given weekly, and every advantage for the prosecution of PRACTICAL ANATOMY offered to the student. The regular course of lectures on Anatomy begins about the last of October and ends the 1st of March. The lectures are given at such an hour as not to interfere with the collegiate engagements of the student. The Lecture Room and the Dissecting Rooms supplied with *ample material*, are admirably ventilated, lighted and heated, and arranged in the best possible manner for purposes of PRACTICAL DEMONSTRATION.

The ANATOMICAL MUSEUM, recently much enlarged, is supplied with preparations, plates, models, and everything necessary to ILLUSTRATE AND IMPART instruction in this fundamental branch of Medicine.

The Antiseptics now used in preparing and injecting the Cadaver, allow dissecting to be prosecuted even during the heat of Summer.

In September the rooms will be open during the entire day for the student to prosecute his work. In October, the Demonstrations in the evening will commence, and continue during the entire session until March.

During the hours for Demonstration the Lecturer or his assistant will be in the rooms to assist the student in his dissections.

W. S. FORBES, M. D.

W. A. DUFF & CO.

MANUFACTURERS OF

PORCELAIN TEETH

No. 516 ARCH STREET,

PHILADELPHIA.

We invite the attention of Dentists and Dealers to our assortment of ARTIFICIAL TEETH, believing them equal to any offered to the profession.

We are prepared to furnish every variety of PLAIN and GUM TEETH for GOLD and SILVER PLATE, and RUBBER OR VULCANITE WORK, including Block and Single Teeth, for Vulcanite, with

PATENT MACHINE-MADE

DOUBLE-HEADED PINS.

These Pins have really two distinct and well-formed heads, one in the tooth, preventing the possibility of their being drawn out, and one for insertion in the Rubber. The upper central blocks have each five pins, and the lower central and side blocks each four; together, Fifty Double-headed Pins in each full set, our machinery enabling us to finish them in this improved manner, in which way they are not made by any other manufacturer.

From the many testimonials received in regard to their STRENGTH, we are led to believe they are

THE STRONGEST TEETH MADE.

We are also prepared to furnish a full assortment of DENTAL INSTRUMENTS, &c., from the well-known manufacturers,

JOHN D. CHEVALIER & SONS.

Also, Lathes, Vulcanizers, Archer's Improved Dental Chairs,

FOOTSTOOLS, SPITTOONS, TRAYS, &c., &c., including the various articles used by the profession.

W. A. DUFF,
DR. J. J. GRIFFITH, D. D. S. }

W. A. DUFF & CO.,
516 Arch Street, Phila.

VOL. III.

OCTOBER, 1865.

NO. 2.

THE
DENTAL TIMES,
A
QUARTERLY JOURNAL
OF
DENTAL SCIENCE.

EDITED AND PUBLISHED BY

THE FACULTY

OF THE

Pennsylvania College of Dental Surgery.

PHILADELPHIA.

PRICE \$1.00 A YEAR, IN ADVANCE.

CONTENTS.

| | PAGE |
|---------------------------------------------------------------------------------------------------------------|------|
| Specialties and Specialists in Medicine, by Daniel Brainard, M. D., . . . | 49 |
| Arsenic, by H. C. Rockwell, D. D. S., - - - - - | 58 |
| Popular Dental Education, by A. Lawrence, - - - - - | 61 |
| Review of Researches on the Medicinal Properties and Applications of Nitrous Oxide, by G. T. B., - - - - - | 64 |
| Causes which Hasten or Retard Vulcanization, by Geo. E. Hayes, - - - | 67 |
| Diseases of the Maxillary Sinus, by George T. Barker, D. D. S., - - - | 70 |
| Partial Paralysis from Extraction, by Occidental, - - - - - | 72 |
| On the Uniformity of Dental Fees, by J. Q. B., - - - - - | 74 |
| Sensibility of Dentine, by James Truman, D. D. S., - - - - - | 75 |

TO THE PROFESSION.

In issuing the "DENTAL TIMES," we desire to make it of interest to the mass of practitioners. To this end we earnestly solicit from our professional friends, communications on any branch of our specialty. To those who hesitate because their limited time incapacitates them for writing long or elaborate articles, we would say, give us the facts and the method, and we will lay them before our readers so that all will understand and many be instructed.

Persons desiring to become subscribers, can do so by remitting the price of subscription, *one dollar per annum*, with name and address, to Dr. T. L. Buckingham, 243 North Ninth street, Philadelphia.

As we desire to keep a corrected list of the dentists in the United States, our friends and subscribers will please notify us when changing their location.

DEMONSTRATORS' REPORT.

ALL OPERATIONS IN THE CLINICS OF THIS INSTITUTION ARE PERFORMED
GRATUITOUSLY FOR THE BENEFIT OF THE **POOR ONLY.**

SESSION OF 1864-'65.

OPERATIVE DEPARTMENT.

| | |
|---------------------------------------------------------------|------|
| Number of Patients visiting the Clinic,..... | 2600 |
| Number for whom the following operations were performed,..... | 1487 |
| <hr/> | |
| Gold Fillings,..... | 627 |
| Tin do | 696 |
| Wood's Metal,..... | 9 |
| Hill's Stopping,..... | 14 |
| Amalgam,..... | 12 |
| Treatment and Filling Pulp Cavities,..... | 176 |
| Superficial Caries Removed,..... | 6 |
| Removal of Salivary Calculi, | 57 |
| Treatment of Periostitis,..... | 28 |
| Do Alveolar Abscess,..... | 10 |
| Do Inflammation of the Gums,..... | 5 |
| Do Partial Necrosis,..... | 15 |
| Do Irregularities, | 10 |
| Pivot Teeth inserted,..... | 2 |
| Extraction of Teeth and Roots, | 2010 |
| <hr/> | |
| Total,..... | 3677 |

JAMES TRUMAN, Demonstrator.

MECHANICAL DEPARTMENT.

154 Patients were supplied with the following Artificial Dentures :

| | |
|-------------------------------------|------|
| Whole Sets of Teeth, | 31 |
| Full Upper Sets, | 48 |
| Full Lower Sets, | 2 |
| Full Upper Set, Blocks,..... | 1 |
| Partial Upper Sets, | 76 |
| Do Lower Sets,..... | 4 |
| Obturators,* | 2 |
| Teeth Mounted on Metal Plates,..... | 528 |
| Do Hard Rubber Base,..... | 1481 |
| Whole Number of Gum Teeth,..... | 902 |
| Do Plain Teeth,..... | 1107 |
| <hr/> | |
| Do Teeth Mounted,..... | 2009 |

J. M. BARSTOW, Demonstrator.

* These were made for soldiers having lost their teeth and adjacent bones from gunshot wounds.

M A T R I C U L A N T S .

NINTH ANNUAL SESSION, 1864-'65.

| | | | |
|---------------------------------|----------------|--------------------------|----------------|
| ROBERT JAS. ADAMS,..... | New York. | C. B. McGRATH,..... | Pennsylvania. |
| BENJAMIN J. BING,..... | Maryland. | FRANCIS MIGNOTTE,..... | Cuba. |
| SAMUEL A. BEECHER,..... | Missouri. | CHARLES A. MILBANK,..... | New York. |
| HENRY BLAKENEY,..... | New York. | WM A. NEWLAND, JR.,..... | Pennsylvania. |
| HOWARD BASSETT,..... | New Jersey. | P. PRETERRE, M. D.,..... | New York. |
| JOSE BERTRAM,..... | Cuba. | JAMES PARSONS,..... | Wisconsin. |
| GASPER A. BETANCOURT,..... | " | ABRAM PRATT,..... | Pennsylvania. |
| JOHN R. BUCKINGHAM,..... | Pennsylvania. | S. G. PERRY,..... | New York. |
| EDWIN C. BAXTER, D. D. S.,..... | Maine. | JARED A. PERKINS,..... | Massachusetts. |
| J. WESLEY CLEMSON,..... | Pennsylvania. | JAMES R. RONEY,..... | Pennsylvania. |
| AUGUST CULMAN, M. D.,..... | Bavaria. | THOMAS ROBINSON, | Delaware. |
| P. M. CHRISTIE,..... | Pennsylvania | THOMAS ROBSON, JR.,..... | Pennsylvania. |
| FREDERICK K. CROSBY,..... | Connecticut. | H. C. ROCKWELL,..... | New York. |
| EDWIN T. DARBY,..... | New York. | H. P. ROBERTS,..... | Illinois. |
| E. S. DAVENPORT,..... | " | H. C. REGISTER,..... | Maryland. |
| HORACE ENOS,..... | Pennsylvania | A. EMORY STREET,..... | New Jersey. |
| MICHELE FICHERA,..... | Sicily. | JOHN SHELDON,..... | New York. |
| SIMON FRAU,..... | Cuba. | C. S. STOCKTON ,..... | New Jersey. |
| JOHN N. FARRAR,..... | Massachusetts. | WILLIAM SMEDLEY,..... | Pennsylvania. |
| ENOCH S. FOGG,..... | Pennsylvania. | GEORGE B. SANFORD,..... | New York. |
| JOHN FRASIER,..... | Maryland. | WM. H. SCHOLL, | Pennsylvania. |
| SIMEON H. GUILFORD,..... | Pennsylvania | WM. H. TRUEMAN,..... | " |
| JESSE C. GREEN,..... | " | A. P. TOMPKINS,..... | " |
| CANBY HATHAWAY,..... | " | J. J. VANDERFORD,..... | Maryland. |
| JAMES O A. JOHNSON,..... | New Jersey. | CARLOS DeL VILLAR, | Cuba. |
| JONAS Y. KERN,..... | Pennsylvania. | AUGUSTIN DE VARONA,... | " |
| DANIEL J. LALLY,..... | New York. | J. A. WOODWARD,..... | Pennsylvania |
| WM. R. LINEAWEAVER,..... | Pennsylvania. | J. B. R. WRIGGINS..... | New Jersey |
| JOHN LYNAM, M. D.,..... | Ireland. | | |

GRADUATES, 1864-'65.

| | | |
|----------------------------|----------------------|------------------------------------------|
| GASPER A. BETANCOURT,..... | Cuba,..... | Filling Pulp Cavities and Roots of Teeth |
| SAMUEL A. BEECHER,..... | Missouri,..... | Sulphuric Ether. |
| HOWARD BASSETT,..... | New Jersey,..... | Diseases Incident to First Dentition. |
| BENJAMIN J. BING,..... | Maryland,..... | Dentistry, a Science. |
| J. WESLEY CLEMSON,..... | Pennsylvania,..... | Predisposing Causes to Dental Caries. |
| AUGUST CULMAN, M. D.,..... | Bavaria,..... | Neuralgia of the Trigemini. |
| EDWIN T. DARBY,..... | New York,..... | Dentistry, a Profession. |
| HORACE ENOS,..... | Pennsylvania,..... | Vulcanized Rubber. |
| SIMON FRAU,..... | Cuba,..... | Ether. |
| MICHELE FICHERA,..... | Sicily, | Filling Teeth. |
| T. N. FARRAR,..... | Massachusetts, | Intermittent and Hysterical Neuralgia. |
| SIMON GUILFORD,..... | Pennsylvania,..... | Vascularity of Dentine. |
| JAMES O. A. JOHNSON,..... | New Jersey,..... | Extraction of Teeth. |
| JOHN LYMAN, M. D.,..... | Ireland,..... | Military Dentistry. |
| C. A. MILBANK,..... | New York,..... | Diseases Attending First Dentition. |
| CHAS. B. McGRATH, | Pennsylvania,..... | Hysteria. |
| WM. A. NEWLAND,..... | " | Fractures of the Teeth. |
| ABRAM PRATT, | " | Odontology. |
| S. G. PERRY,..... | New York,..... | Inflammation. |
| P. PRETERRE, M. D.,..... | " | Development of Teeth. |
| JARED A. PERKINS,..... | Massachusetts,..... | Cause of Dental Caries. |
| THOS. ROBINSON,..... | Delaware,..... | Irregularities of the Permanent Teeth. |
| THOMAS ROBSON, JR.,..... | Pennsylvania,..... | Rubber. |
| HEWLETT C. ROCKWELL,..... | New York,..... | Nitrous Oxide. |
| A. EMORY STREET,..... | New Jersey,..... | Entire Artificial Dentures. |
| W. H. SCHOLL,..... | Pennsylvania,..... | Indurated Rubber. |
| GEO. B. SANFORD,..... | New York,..... | Teeth and their Diseases. |
| J. B. R. WRIGGINS,..... | New Jersey,..... | Caries of the Teeth. |
| J. A. WOODWARD,..... | Pennsylvania,..... | Treatment of Exposed Dental Pulp |

DR. B. WOOD'S PLASTIC METALLIC FILLING.

Improvement Patented September 4th, 1864.

TERMS FOR LICENSES & MATERIALS THE SAME AS HERETOFORE.

All Licenses are issued from this Office, Albany, N. Y., and all take date from the date of the Patent, September 4, 1864.

TERMS.—For 5 years from that date, \$8; for 10 years, \$15; for 17 years, (full term,) \$25. Licenses for limited periods apply in part payment towards an extension, and may be paid by installments upon the same conditions as heretofore.

This material is not only considered the best yet known for filling teeth, except gold, invaluable for repairing rubber plate work, and various other uses about the office and laboratory; being absolutely free from mercury, it can be used advantageously in connection with gold and silver without discoloration or injury to them.

For particulars in regard to its qualities, uses, &c., see the *Dental Circular and Examiner*.

The FILLING will hereafter be sold by *troy weight* instead of *avoirdupois*, put up in thin ingots or bars weighing two-thirds of an ounce troy, (equal to three-fourths ounces *avoirdupois*, less the postage,) and will accordingly be mailed *free of postage*, agreeable to former notice.

Price \$3 an ingot, with the right of use for trial, and the privilege of a license on the above terms. Those who have purchased licenses for five years under this patent, or may procure them by the 1st of January, 1866, furnished at a reduction of one-third, or at \$2 an ingot. Take notice, that each ingot bears the patent stamp, as infringers and those who use their infringements will be prosecuted wherever found.

PLUGGERS FOR USING THE FILLING.

Patented February 28, 1865.

In sets of 8 or 12, steel handles, at \$3, and \$4 50 a set respectively. Postage 24 and 36 cents.

With Silver and German Silver Bulbs and Points, from \$6 to \$20 a set, according to style and material.

Rights to manufacture and sell these instruments granted on reasonable terms.

For Licenses, Material and Instruments, address

Dr. B. WOOD, Dentist,
ALBANY, N. Y.

Albany, September, 1865.

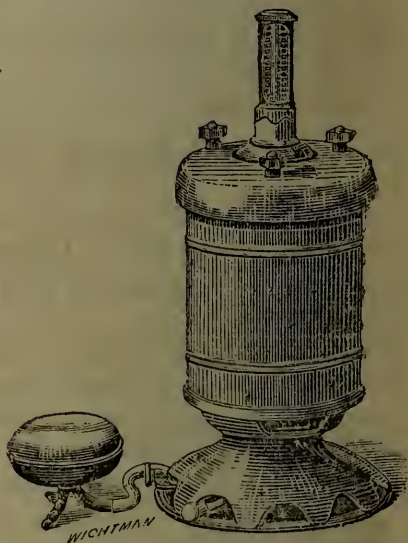
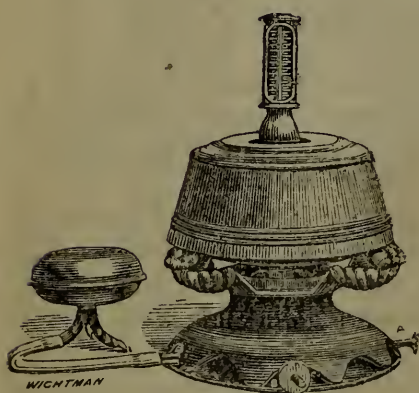
HAYES'

HIGH PRESSURE

VULCANIZING OVEN.

ALSO,

NEW VULCANIZING BOILER.



Steam Joint secured by means of a Screw Collar and Set-Screws. *No Bolts—no Nuts—no Friction on the Rubber Packing.*

These machines Vulcanize in 40 minutes at 320°; make the best quality of work; consume but one fluid ounce of alcohol, and produce no smell of sulphur in the rooms.

PRICES.

ALL COMPLETE, WITH FURNITURE:

| | |
|-----------------------------|---------|
| For one case Oven,..... | \$13 65 |
| For two case Oven,..... | 14 70 |
| For two case Boiler,..... | 15 75 |
| For three case Boiler,..... | 16 80 |
| Kerosene Burner,..... | 2 00 |

Pamphlets sent, on application, gratis. Address,

GEO. E. HAYES,

BUFFALO, N. Y.

Parties ordering will designate whether they wish a burner for gas, alcohol or kerosene.

KEROSENE BURNER,

FOR HAYES' VULCANIZERS.

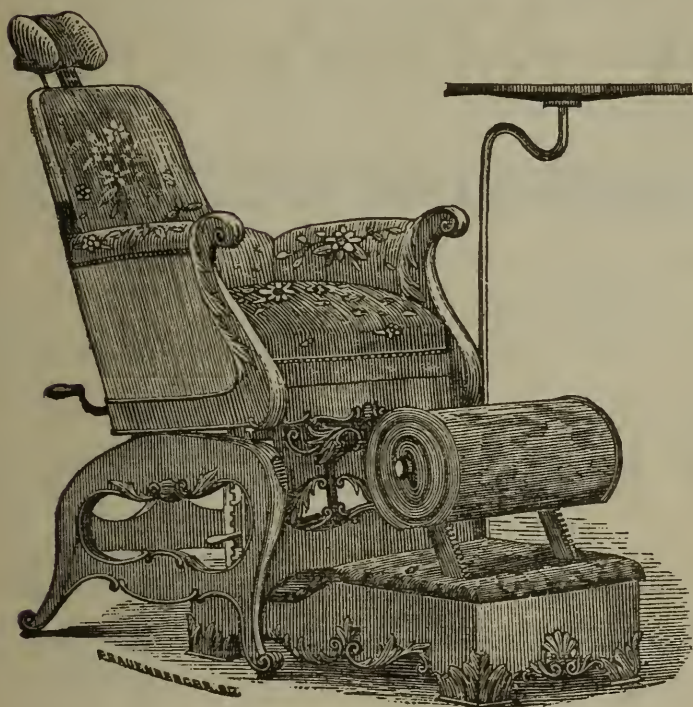
Very simple, burns with open flame, without smoke; heats up with great uniformity, and is easily regulated.

Address,

GEO. E. HAYES, BUFFALO, N. Y.

R. W. ARCHER'S IMPROVED DENTAL CHAIR.

Patented September 4, 1860.



This Dental Operating Chair is fast coming into universal use. It is the most *convenient*, the most *durable*, and the cheapest Chair in use. For complete description and list of prices, send for catalogue to

R. W. ARCHER, Rochester, N. Y.
Sold at all the principal Dental Depots in this country.

CHARLES ABBEY & SONS,
MANUFACTURERS OF
DENTISTS' FINE GOLD AND TIN FOIL,
NOS. 228 & 230 PEAR STREET,
PHILADELPHIA.

The attention of Dentists is invited to our **FINE GOLD FOIL**, which is prepared under our constant personal supervision. Our Nos. are **4, 5, 6, 8** and **10**.

We are also manufacturing an **ADHESIVE FINE GOLD FOIL**, Nos. **4, 5** and **6**.

ALL our Gold Foil is manufactured from **ABSOLUTELY PURE GOLD**, prepared expressly for the purpose, with great care, by ourselves.

DENTISTS' REFINED TIN FOIL CONSTANTLY ON HAND.

Address

CHARLES ABBEY & SONS,

Philadelphia.

A. JONES,
No. 724 BROADWAY, N. Y.,

•
WHILE THANKING THE
DENTAL PROFESSION

For the very liberal patronage they have extended to him for the last twenty-five years, begs leave to say, that he still continues his business as usual at the above number, where may be found

All Articles in the Dental Line,

Of his own, and other manufacturers, of the most

SUPERIOR QUALITY,

AND

At the Most Favorable Prices.

All orders from abroad will be punctually and thoroughly attended to.

JOHN KLEIN

REMOVED

TO THE S. W. CORNER OF TENTH & ARCH STS.

PHILADELPHIA, PENNA.,

WHERE HE HAS OPENED A LARGE

DENTAL DEPOT AND MANUFACTORY,

For the Sale of the Latest Improved Teeth,

FOR ALL KINDS OF RUBBER AND PLATE WORK,

WITH DOUBLE HEADED PINS.

Together with a large assortment of all kinds of Dental Instruments, and other articles needed by the profession.

All orders promptly filled. Also on hand, lots of Flaming Testimonials, as regards the quality of my Porcelain Teeth, from some of the best Dentists in the profession.

NEALL, McCURDY & NEALL,

SUCCESSORS TO

SAMUEL W. NEALL,

MANUFACTURERS OF PORCELAIN TEETH

AND

DENTISTS' MATERIALS.

DENTAL DEPOT,

534 Arch St., south-east corner of Sixth,

PHILADELPHIA, PENNA.

LUTHER'S ADAMANTEAN WHITE-FILLING.

This invaluable preparation is now used by, and meets the approbation of intelligent and experienced Dentists in every State in the Union as being the only Self-hardening filling known that will retain its integrity and metallic color, without turning black and discoloring the teeth, and as being in all respects unequalled as a substitute for Gold, in cases where the latter is inadmissible, on account either of the great extent of the decay, the extreme tenderness of the tooth, the difficulty of access to the cavity, or from motives of economy.

| | | | | |
|-----------------------------------|---|---|---|---------------|
| Packages containing 1 oz., | - | - | - | \$3.00 |
| Do. do. 6 dwts , | - | - | - | 1.00 |

Sent, post paid, on receipt of money. For Circular enclose return postage. Address

H. GILES LUTHER, Dentist,

84 East Twenty-second Street,

NEW YORK.

ROBERTS' OS-ARTIFICIAL

A substitute for AMALGAM in filling badly decayed teeth; and used for resetting PIVOT TEETH in badly decayed roots; also for filling over SENSITIVE DENTINE to destroy sensibility, and as a non-conductor of heat, and for many other DENTAL PURPOSES.

For sale by all dealers in *Dental Materials* and by the undersigned.

One-fourth ounce packages, with directions, sent by mail free of postage, on receipt of \$1.

C. H. ROBERTS, M. D.,

POUGHKEEPSIE, N. Y.

BLOCK TEETH AND VULCANITE.

I would respectfully inform the DENTAL PROFESSION that my Laboratory has been REMOVED TO 100 NORTH TENTH STREET, where, after having made considerable improvements in my style of carving and enamels, with assistants also, I am now enabled to execute all orders with promptness and despatch.

Dentists wishing to try Vulcanite Base, can have a few cases made at a reduced price.

WM. R. HALL,

100 North Tenth Street, Philadelphia.

HORATIO G. KERN,

MANUFACTURER OF

SURGICAL & DENTAL INSTRUMENTS, FILES, &C.

The subscriber would again remind the profession that he still continues to manufacture all kinds of INSTRUMENTS, DENTAL FILES, &C.

From the flattering testimonials he has received, (of which a few are appended,) of the superior quality of his Instruments and Files, he feels confidence in his ability to produce an article fully equal to any made.

Assiduous attention to the details of the business, (with an experience of thirty years,) has enabled him to make many improvements in the *adaptation* to the specific purpose; and, as the success of an operation depends, in some degree, on the adaptation of the instruments to the particular character of the operation, it needs no argument to convince those wishing to procure instruments, of the importance of purchasing the manufacture of those of long and well established reputation. Any orders tendered him will be promptly attended to. Illustrated catalogues will be furnished on application.

HORATIO G. KERN,

No. 25 North Sixth Street, Philadelphia.

TESTIMONIALS.

501 NORTH SEVENTH STREET, *Philadelphia*, June 8th, 1863.

H. G. KERN—*Dear Sir*—The excavators which you handed me some days since I have had in constant use, and take great pleasure in stating that I believe them to be a superior article, both in their ability to retain a sharp cutting edge, and withstand the force essential to the operation.

Yours, &c.

C. N. PEIRCE, D. D. S.

MR. H. G. KERN—*Dear Sir*—The excavators recently manufactured by you have been used with the utmost satisfaction. I can give them an unqualified recommendation. Yours, respectfully,

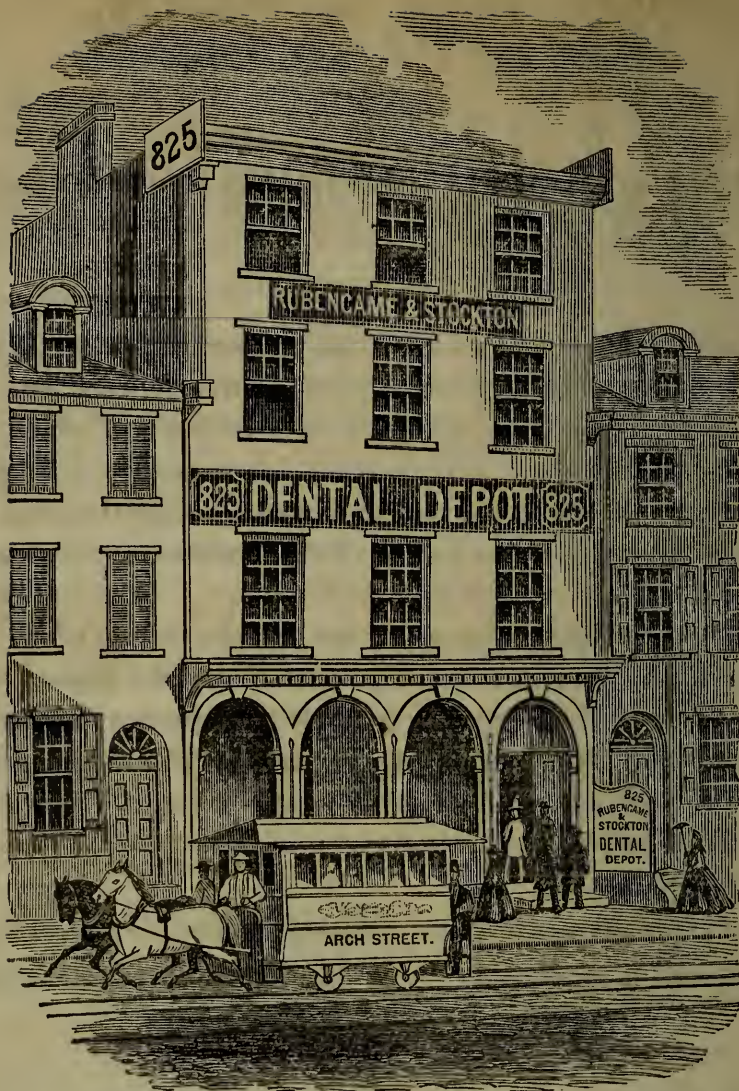
June 26th, 1863.

GEO. T. BARKER, D. D. S.

MR. H. G. KERN—*Dear Sir*—The last excavators obtained from you are of a very superior quality. I can recommend them as being equal to any I have ever used.

T. L. BUCKINGHAM, D. D. S.

June 25h, 1863.



RUBENCAME & STOCKTON, DENTAL DEPOT.

825 ARCH STREET,

PHILADELPHIA, PA.

Manufacturers of PORCELAIN TEETH, GOLD AND TIN FOILS.

Dealers in every variety of INSTRUMENTS AND MATERIALS required by the Dentist. All orders carefully and promptly filled. Write plainly, giving name and residence in full, and address

RUBENCAME & STOCKTON, 825 Arch Street, Phila.

CARD.

The undersigned having connected himself with Messrs. RUBENCAME & STOCKTON, as a Special Partner, in the manufacture of Porcelain Teeth, Dental Material, etc., is desirous of renewing the business intercourse with the Dental Profession, which ill-health compelled him to suspend some years since.

He pledges himself that nothing shall be wanting on his part to make these renewed relations as pleasant and as satisfactory as those heretofore maintained.

Respectfully,

JOHN R. McCURDY.

RUBENCAME & STOCKTON.

ARTIFICIAL TEETH.

The subscribers take pleasure in stating, that, as a result of years of application to this particular branch of business, and by the right use of means, men and material, they are now able to produce as good an assortment of Artificial Teeth, as can be found in the country, embracing those used for both Rubber and Plate work of every variety, in size, shape and shade, and combining with all, strength and adaptation. Particular attention is directed to our more recent make, among which will be found styles and shades to suit the most fastidious. Scores of certificates are in our possession, showing the appreciation of our numerous friends, and testifying their entire satisfaction. Parties sending casts by mail, express or otherwise, can have teeth properly selected for them and receive prompt returns.

Liberal discount to dealers. Address

RUBENCAME & STOCKTON,
825 ARCH STREET, PHILA.

GOLD FOIL.

We are prepared to supply the Profession with a very superior quality of our own make of Gold Foil. This Foil is made of double-refined gold, and is soft and adhesive. It is put up carefully in books, each of which contains the full weight marked upon it. Below we give a few certificates, attesting its good working qualities, and its thorough fitness for even the nicest operations.

RUBENCAME & STOCKTON.

CERTIFICATES.

PHILA., June 21, 1865.

RUBENCAME & STOCKTON—*Gentlemen*—The No. 4 Gold Foil lately procured from you, works well; equal, I think, to any I have used.

Yours, &c.,

C. N. PEIRCE, 501 N. Seventh St.

PHILA., June 20, 1865.

MESSRS. RUBENCAME & STOCKTON—I have used your Gold Foil since it was first put in the market, and can recommend it as equal, if not superior, to any I have ever used.

T. L. BUCKINGHAM, 243 N. Ninth Street.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—I have used your Gold Foil for months past, and being pleased with its good working qualities, I can have no hesitation in expressing my approbation of it in this way.

PHILA., June 26, 1865.

C. E. HOPKINS, 1115 Walnut Street.

PHILA., June 27, 1865.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—In response to your inquiry as to my opinion of your Gold Foil, I take pleasure in stating that after a trial of most of the prominent Foils in the market, I now give yours a decided preference. All that I have obtained has possessed the following prominent qualities, adhesiveness, ductility and uniformity, the last being a quality which few gold foils can claim. Yours, truly, GEORGE T. BARKER, 1111 Arch St.

RUBENCAME & STOCKTON.

TIN FOIL.

We have also for sale a superior article of CHEMICALLY PURE TIN FOIL, of our own make, which we believe will give full satisfaction. Price per book, 50 cents.

RUBENCAME & STOCKTON.

BARKER'S ETHEREAL PREPARATION.

The subscribers are the only persons duly authorized by the inventor, to manufacture the above preparation. Put up in two ounce bottles, with brush. Price 50 cents. For sale by

RUBENCAME & STOCKTON.

VULCANIZERS.

Whitney's one, two and three Case, with Thermometer, Lamp or Gas Burner, Flasks and Wrenches complete; also, an assortment of Hayes' Boilers and Ovens, ready for use.

RUBENCAME & STOCKTON.

RUBBER.

| | | | |
|------------------------------------------------|----|---|--------|
| American Hard Rubber Company's Gum, per pound, | - | - | \$5 00 |
| Gutta Percha, for impressions, | do | - | 3 00 |

RUBENCAME & STOCKTON.

RUBBER FILES.

A full assortment of Half-round and Double-end Files for rubber work, smooth, medium and course, different lengths, with and without handles, at prices ranging from 25 to 50 cents each.

RUBENCAME & STOCKTON.

RUBBER SCRAPERS.

We have just received a full assortment of SCRAPERS, of every variety and shape desirable, well made. Price 30 cents.

RUBENCAME & STOCKTON.

EXCAVATORS, PLUGGERS AND FORCEPS.

A full assortment of the best makes of instruments, embracing all the new and desirable patterns, constantly on hand and for sale by

RUBENCAME & STOCKTON.

LIQUID SILEX.

We have prepared a quantity of this material, for mending broken teeth, closing crevices between the blocks, and for varnishing casts to prevent the plaster from adhering to the rubber. Price per bottle, 25 cents.

RUBENCAME & STOCKTON.

College Avenue Anatomical School,

IN CHANT ST., OPPOSITE ST. STEPHEN'S CHURCH,

PHILADELPHIA:

WINTER ANNOUNCEMENT OF 1865-66.

The DISSECTING HALL AND OPERATIVE ROOMS of this well-established Institution will be open as usual on the 1st of September, for the ensuing session.

During the months of September and October several preliminary lectures will be given weekly, and every advantage for the prosecution of PRACTICAL ANATOMY offered to the student. The regular course of lectures on Anatomy begins about the last of October and ends the 1st of March. The lectures are given at such an hour as not to interfere with the collegiate engagements of the student. The Lecture Room and the Dissecting Rooms supplied with *ample material*, are admirably ventilated, lighted and heated, and arranged in the best possible manner for purposes of PRACTICAL DEMONSTRATION.

The ANATOMICAL MUSEUM, recently much enlarged, is supplied with preparations, plates, models, and everything necessary to ILLUSTRATE AND IMPART instruction in this fundamental branch of Medicine.

The Antiseptics now used in preparing and injecting the Cadaver, allow dissecting to be prosecuted even during the heat of Summer.

In September the rooms will be open during the entire day for the student to prosecute his work. In October, the Demonstrations in the evening will commence, and continue during the entire session until March.

During the hours for Demonstration the Lecturer or his assistant will be in the rooms to assist the student in his dissections.

W. S. FORBES, M. D.

W. A. DUFF & CO.

MANUFACTURERS OF

PORCELAIN TEETH

No. 516 ARCH STREET,
PHILADELPHIA.

We invite the attention of Dentists and Dealers to our assortment of ARTIFICIAL TEETH, believing them equal to any offered to the profession.

We are prepared to furnish every variety of PLAIN and GUM TEETH for GOLD and SILVER PLATE, and RUBBER OR VULCANITE WORK, including Block and Single Teeth, for Vulcanite, with

PATENT MACHINE-MADE DOUBLE-HEADED PINS.

These Pins have really two distinct and well-formed heads, one in the tooth, preventing the possibility of their being drawn out, and one for insertion in the Rubber. The upper central blocks have each five pins, and the lower central and side blocks each four; together, Fifty Double-headed Pins in each full set, our machinery enabling us to finish them in this improved manner, in which way they are not made by any other manufacturer.

From the many testimonials received in regard to their STRENGTH, we are led to believe they are

THE STRONGEST TEETH MADE.

We are also prepared to furnish a full assortment of DENTAL INSTRUMENTS, &c., from the well-known manufacturers,

JOHN D. CHEVALIER & SONS.

Also, Lathes, Vulcanizers, Archer's Improved Dental Chairs,

FOOTSTOOLS, SPITTOONS, TRAYS, &c., &c., including the various articles used by the profession.

W. A. DUFF,
DR. J. J. GRIFFITH, D. D. S. }

W. A. DUFF & CO.,
516 Arch Street, Phila.

VOL. III.

JANUARY, 1866.

NO. 3.

THE
DENTAL TIMES,

A
QUARTERLY JOURNAL

OF

DENTAL SCIENCE.

EDITED AND PUBLISHED BY

DRS. T. L. BUCKINGHAM,
G. T. BARKER,

E. WILDMAN,
W. S. FORBES,

AND

JAMES TRUMAN,

FACULTY

OF THE

Pennsylvania College of Dental Surgery.

PHILADELPHIA.

PRICE \$1.00 A YEAR, IN ADVANCE.

CONTENTS.

COMMUNICATIONS.

| | PAGE |
|------------------------------------------------------------------------------------------------------------------|------|
| Remarks on Dr. Lawrence's Suggestions, October Number DENTAL TIMES, by T. D. Thompson, D. D. S., - - - - - | 97 |
| Introductory to the Course of Dental Physiology and Operative Dentistry, by James Truman, D. D. S., - - - - - | 98 |
| Treatment of the Antrum, by J. D. White, M. D., D. D. S., - - - | 108 |
| Iron, by T. L. Buckingham, D. D. S., - - - - - | 112 |
| Is your Life Insured? by George T. Barker, D. D. S., - - - | 115 |
| On "Submarine" Filling, by H. Scott, D. D. S., - - - - - | 118 |
| Removal of a Piece of Beef Bone from the Mouth of a Child, by C. A. Jordon, | 119 |
| India Rubber Cones for Polishing Vulcanized Rubber, by E. P., - - - | 121 |

EDITORIAL.

| | |
|-------------------------------------------------|-----|
| Dental Students in the United States, - - - - - | 120 |
| To the Profession, - - - - - | 122 |
| A Reply to "Are you a Reading Man," - - - - - | 122 |
| The Dental Journals, - - - - - | 125 |
| Contributions to the Museum, - - - - - | 126 |

TO THE PROFESSION.

In issuing the "DENTAL TIMES," we desire to make it of interest to the mass of practitioners. To this end we earnestly solicit from our professional friends, communications on any branch of our specialty. To those who hesitate because their limited time incapacitates them for writing long or elaborate articles, we would say, give us the facts and the method, and we will lay them before our readers so that all will understand and many be instructed.

Persons desiring to become subscribers, can do so by remitting the price of subscription, *one dollar per annum*, with name and address, to Dr. T. L. Buckingham, 243 North Ninth street, Philadelphia.

As we desire to keep a corrected list of the dentists in the United States, our friends and subscribers will please notify us when changing their location.

DEMONSTRATORS' REPORT.

ALL OPERATIONS IN THE CLINICS OF THIS INSTITUTION ARE PERFORMED
GRATUITOUSLY FOR THE BENEFIT OF THE POOR ONLY.

SESSION OF 1864-'65.

OPERATIVE DEPARTMENT.

| | |
|---------------------------------------------------------------|------|
| Number of Patients visiting the Clinic,..... | 2600 |
| Number for whom the following operations were performed,..... | 1487 |
| Gold Fillings,..... | 627 |
| Tin do | 696 |
| Wood's Metal,..... | 9 |
| Hill's Stopping,..... | 14 |
| Amalgam,..... | 12 |
| Treatment and Filling Pulp Cavities,..... | 176 |
| Superficial Caries Removed,..... | 6 |
| Removal of Salivary Calculi,..... | 57 |
| Treatment of Periostitis,..... | 28 |
| Do Alveolar Abscess,..... | 10 |
| Do Inflammation of the Gums,..... | 5 |
| Do Partial Necrosis,..... | 15 |
| Do Irregularities, | 10 |
| Pivot Teeth inserted,..... | 2 |
| Extraction of Teeth and Roots, | 2010 |
| Total,..... | 3677 |

JAMES TRUMAN, Demonstrator.

MECHANICAL DEPARTMENT.

154 Patients were supplied with the following Artificial Dentures :

| | |
|-------------------------------------|------|
| Whole Sets of Teeth, | 31 |
| Full Upper Sets, | 48 |
| Full Lower Sets, | 2 |
| Full Upper Set, Blocks,..... | 1 |
| Partial Upper Sets, | 76 |
| Do Lower Sets,..... | 4 |
| Obturator,* | 2 |
| Teeth Mounted on Metal Plates,..... | 528 |
| Do Hard Rubber Base,..... | 1481 |
| Whole Number of Gum Teeth,..... | 902 |
| Do Plain Teeth,..... | 1107 |
| Do Teeth Mounted,..... | 2009 |

J. M. BARSTOW, Demonstrator.

* These were made for soldiers having lost their teeth and adjacent bones from gunshot wounds.

M A T R I C U L A N T S .

NINTH ANNUAL SESSION, 1864-'65.

| | | | |
|---------------------------------|----------------|--------------------------|----------------|
| ROBERT JAS. ADAMS,..... | New York. | C. B. McGRATH,..... | Pennsylvania. |
| BENJAMIN J. BING,..... | Maryland. | FRANCIS MIGNOTTE,..... | Cuba. |
| SAMUEL A. BEECHER,..... | Missouri. | CHARLES A. MILBANK,..... | New York. |
| HENRY BLAKENEY,..... | New York. | WM A. NEWLAND, JR.,..... | Pennsylvania. |
| HOWARD BASSETT,..... | New Jersey. | P. PRETERRE, M. D.,..... | New York. |
| JOSE BERTRAM,..... | Cuba. | JAMES PARSONS,..... | Wisconsin. |
| GASPER A. BETANCOURT,..... | " | ABRAM PRATT,..... | Pennsylvania. |
| JOHN R. BUCKINGHAM,..... | Pennsylvania. | S. G. PERRY,..... | New York. |
| EDWIN C. BAXTER, D. D. S.,..... | Maine. | JARED A. PERKINS,..... | Massachusetts. |
| J. WESLEY CLEMSON,..... | Pennsylvania. | JAMES R. RONEY,..... | Pennsylvania. |
| AUGUST CULMAN, M. D.,..... | Bavaria. | THOMAS ROBINSON,..... | Delaware. |
| P. M. CHRISTIE,..... | Pennsylvania. | THOMAS ROBSON, JR.,..... | Pennsylvania. |
| FREDERICK K. CROSBY,..... | Connecticut. | H. C. ROCKWELL,..... | New York. |
| EDWIN T. DARBY,..... | New York. | H. P. ROBERTS,..... | Illinois. |
| E. S. DAVENPORT,..... | " | H. C. REGISTER,..... | Maryland. |
| HORACE ENOS,..... | Pennsylvania. | A. EMORY STREET,..... | New Jersey. |
| MICHELE FICHERA,..... | Sicily. | JOHN SHELDON,..... | New York. |
| SIMON FRAU,..... | Cuba. | C. S. STOCKTON,..... | New Jersey. |
| JOHN N. FARRAR,..... | Massachusetts. | WILLIAM SMEDLEY,..... | Pennsylvania. |
| ENOCH S. FOGG,..... | Pennsylvania. | GEORGE B. SANFORD,..... | New York. |
| JOHN FRASIER,..... | Maryland. | WM. H. SCHOLL,..... | Pennsylvania. |
| SIMEON H. GUILFORD,..... | Pennsylvania. | WM. H. TRUEMAN,..... | " |
| JESSE C. GREEN,..... | " | A. P. TOMPKINS,..... | " |
| CANBY HATHAWAY,..... | " | J. J. VANDERFORD,..... | Maryland. |
| JAMES O. A. JOHNSON,..... | New Jersey. | CARLOS DEL VILLAR,..... | Cuba. |
| JONAS Y. KERN,..... | Pennsylvania. | AUGUSTIN DE VARONA,... | " |
| DANIEL J. LALLY,..... | New York. | J. A. WOODWARD,..... | Pennsylvania. |
| WM. R. LINEAWEAVER,..... | Pennsylvania. | J. B. R. WRIGGINS,..... | New Jersey. |
| JOHN LYNAM, M. D.,..... | Ireland. | | |

GRADUATES, 1864-'65.

| | | |
|----------------------------|---------------------|------------------------------------------|
| GASPER A. BETANCOURT,..... | Cuba,..... | Filling Pulp Cavities and Roots of Teeth |
| SAMUEL A. BEECHER,..... | Missouri,..... | Sulphuric Ether. |
| HOWARD BASSETT,..... | New Jersey,..... | Diseases Incident to First Dentition. |
| BENJAMIN J. BING,..... | Maryland,..... | Dentistry, a Science. |
| J. WESLEY CLEMSON,..... | Pennsylvania,..... | Predisposing Causes to Dental Caries. |
| AUGUST CULMAN, M. D.,..... | Bavaria,..... | Neuralgia of the Trigemini. |
| EDWIN T. DARBY,..... | New York,..... | Dentistry, a Profession. |
| HORACE ENOS,..... | Pennsylvania,..... | Vulcanized Rubber. |
| SIMON FRAU,..... | Cuba,..... | Ether. |
| MICHELE FICHERA,..... | Sicily,..... | Filling Teeth. |
| T. N. FARRAR,..... | Massachusetts,..... | Intermittent and Hysterical Neuralgia. |
| SIMON GUILFORD,..... | Pennsylvania,..... | Vascularity of Dentine. |
| JAMES O. A. JOHNSON,..... | New Jersey,..... | Extraction of Teeth. |
| JOHN LYMAN, M. D.,..... | Ireland,..... | Military Dentistry. |
| C. A. MILBANK,..... | New York,..... | Diseases Attending First Dentition. |
| CHAS. B. McGRATH,..... | Pennsylvania,..... | Hysteria. |
| WM. A. NEWLAND,..... | "..... | Fractures of the Teeth. |
| ABRAM PRATT,..... | "..... | Odontology. |
| S. G. PERRY,..... | New York,..... | Inflammation. |
| P. PRETERRE, M. D.,..... | "..... | Development of Teeth. |
| JARED A. PERKINS,..... | Massachusetts,..... | Cause of Dental Caries. |
| THOS. ROBINSON,..... | Delaware,..... | Irregularities of the Permanent Teeth. |
| THOMAS ROBSON, JR.,..... | Pennsylvania,..... | Rubber. |
| HEWLETT C. ROCKWELL,..... | New York,..... | Nitrous Oxide. |
| A. EMORY STREET,..... | New Jersey,..... | Entire Artificial Dentures. |
| W. H. SCHOLL,..... | Pennsylvania,..... | Indurated Rubber. |
| GEO. B. SANFORD,..... | New York,..... | Teeth and their Diseases. |
| J. B. R. WRIGGINS,..... | New Jersey,..... | Caries of the Teeth. |
| J. A. WOODWARD,..... | Pennsylvania,..... | Treatment of Exposed Dental Pulp |

DR. B. WOOD'S

PLASTIC METALLIC FILLING,

IMPROVEMENT PATENTED SEPTEMBER 4, 1864.

Free Use for Trial without a License until Sept. 1866.

No more Licenses Issued until that Date.

Price, \$3 an Ounce, Troy Weight.

This Material is not only considered the best yet known for filling teeth except gold, but invaluable for repairing rubber plate work, and various other uses about the office and laboratory—being absolutely free from mercury, it can be used advantageously in connection with gold and silver, without discoloration or injury to them.

The Plastic Metallic Filling is put up in thin ingots or bars, convenient for use, about $\frac{1}{20}$ of an inch in thickness, and $\frac{2}{3}$ of an ounce in weight, each stamped with the name of the patentee and the dates of the patents.

Price, \$2 an ingot; postage free. Half ingots, \$1.

For particulars apply for a circular.

PLUGGERS FOR USING THE FILLING.

Patented Feb. 28, 1865.

In sets of eight or twelve, steel handles, at \$3 and \$4.50 a set respectively. Postage 24 and 36 cents.

With Silver and German Silver Bulbs and Points, from \$6 to \$20 a set, according to style and material.

Rights to manufacture and sell these instruments granted on reasonable terms.

Dr. B. WOOD, Dentist,

ALBANY, N. Y.

January, 1866.

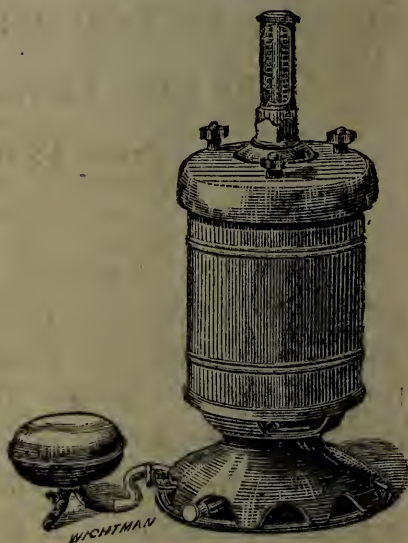
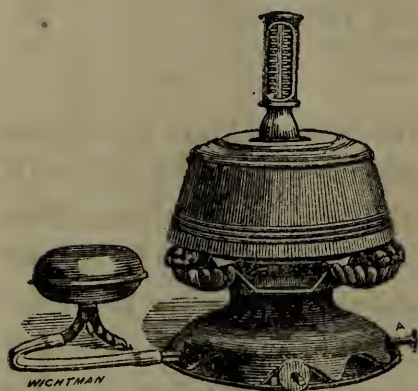
HAYES'

HIGH PRESSURE

VULCANIZING OVEN.

ALSO,

NEW VULCANIZING BOILER.



Steam Joint secured by means of a Screw Collar and Set-Screws. *No Bolts—no Nuts—no Friction on the Rubber Packing.*

These machines Vulcanize in 40 minutes at 320°; make the best quality of work; consume but one fluid ounce of alcohol, and produce no smell of sulphur in the rooms.

PRICES.

ALL COMPLETE, WITH FURNITURE:

| | |
|-----------------------------|----------|
| For one case Oven,..... | \$13 65. |
| For two case Oven,..... | 14 70 |
| For two case Boiler,..... | 15 75 |
| For three case Boiler,..... | 16 80 |
| Kerosene Burner,..... | 2 00 |

Pamphlets sent, on application, gratis. Address,

GEO. E. HAYES,

BUFFALO, N. Y.

Parties ordering will designate whether they wish a burner for gas, alcohol or kerosene.

KEROSENE BURNER,

FOR HAYES' VULCANIZERS.

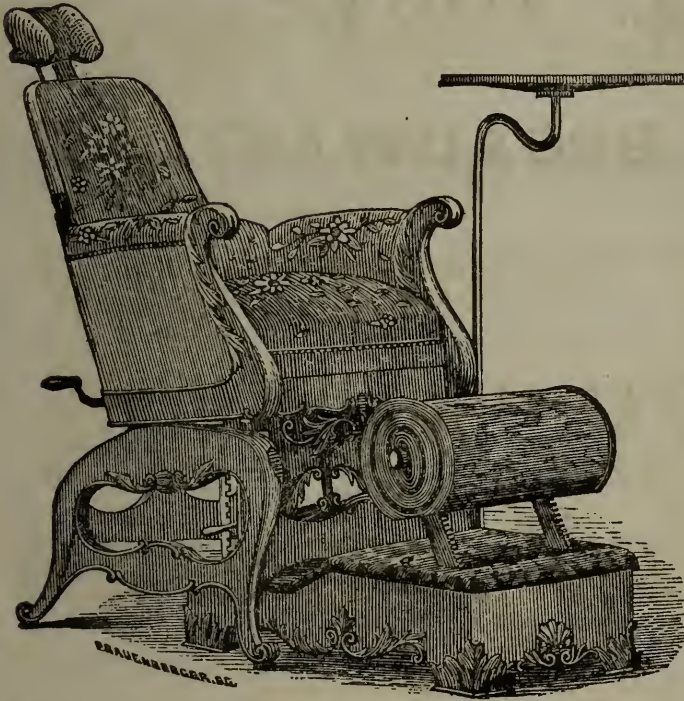
Very simple, burns with open flame, without smoke; heats up with great uniformity, and is easily regulated.

Address,

GEO. E. HAYES, BUFFALO, N. Y.

R. W. ARCHER'S IMPROVED DENTAL CHAIR.

Patented September 4, 1860.



This Dental Operating Chair is fast coming into universal use. It is the most *convenient*, the most *durable*, and the cheapest Chair in use. For complete description and list of prices, send for catalogue to

R. W. ARCHER, Rochester, N. Y.
Sold at all the principal Dental Depots in this country.

CHARLES ABBEY & SONS,
MANUFACTURERS OF
DENTISTS' FINE GOLD AND TIN FOIL,
NOS. 228 & 230 PEAR STREET,
PHILADELPHIA.

The attention of Dentists is invited to our **FINE GOLD FOIL**, which is prepared under our constant personal supervision. Our Nos. are 4, 5, 6, 8 and 10.

We are also manufacturing an **ADHESIVE FINE GOLD FOIL**, Nos. 4, 5 and 6.

ALL our Gold Foil is manufactured from **ABSOLUTELY PURE GOLD**, prepared expressly for the purpose, with great care, by ourselves.

DENTISTS' REFINED TIN FOIL CONSTANTLY ON HAND.

Address

CHARLES ABBEY & SONS,

Philadelphia

A. JONES,
No. 724 BROADWAY, N. Y.,

WHILE THANKING THE
DENTAL PROFESSION

For the very liberal patronage they have extended to him for the last twenty-five years, begs leave to say, that he still continues his business as usual at the above number, where may be found

All Articles in the Dental Line,

Of his own, and other manufacturers, of the most

SUPERIOR QUALITY,

AND

At the Most Favorable Prices.

All orders from abroad will be punctually and thoroughly attended to.

JOHN KLEIN

REMOVED

TO THE S. W. CORNER OF TENTH & ARCH STS.

PHILADELPHIA, PENNA.,

WHERE HE HAS OPENED A LARGE

DENTAL DEPOT AND MANUFACTORY,

For the Sale of the Latest Improved Teeth,

FOR ALL KINDS OF RUBBER AND PLATE WORK,

WITH DOUBLE HEADED PINS.

Together with a large assortment of all kinds of Dental Instruments, and other articles needed by the profession.

All orders promptly filled. Also on hand, lots of Flaming Testimonials, as regards the quality of my Porcelain Teeth, from some of the best Dentists in the profession.

NEALL, McCURDY & NEALL,

SUCCESSORS TO

SAMUEL W. NEALL,

MANUFACTURERS OF PORCELAIN TEETH

AND

DENTISTS' MATERIALS.

DENTAL DEPOT,

534 Arch St., south-east corner of Sixth,

PHILADELPHIA, PENNA.

LUTHER'S ADAMANTEAN WHITE-FILLING.

This invaluable preparation is now used by, and meets the approbation of intelligent and experienced Dentists in every State in the Union as being the only Self-hardening filling known that will retain its integrity and metallic color, without turning black and discoloring the teeth, and as being in all respects unequalled as a substitute for Gold, in cases where the latter is inadmissible, on account either of the great extent of the decay, the extreme tenderness of the tooth, the difficulty of access to the cavity, or from motives of economy.

| | | | | |
|----------------------------|---|---|---|--------|
| Packages containing 1 oz., | - | - | - | \$3.00 |
| Do. do. 6 dwts, | - | - | - | 1.00 |

Sent, post paid, on receipt of money. For Circular enclose return postage. Address

H. GILES LUTHER, Dentist,

84 East Twenty-second Street.

NEW YORK.

ROBERTS' OS-ARTIFICIAL

A substitute for AMALGAM in filling badly decayed teeth; and used for resetting PIVOT TEETH in badly decayed roots; also for filling over SENSITIVE DENTINE to destroy sensibility, and as a non-conductor of heat, and for many other DENTAL PURPOSES.

For sale by all dealers in *Dental Materials* and by the undersigned.

One-fourth ounce packages, with directions, sent by mail free of postage, on receipt of \$1.

C. H. ROBERTS, M. D.,

POUGHKEEPSIE, N. Y.

BLOCK TEETH AND VULCANITE.

I would respectfully inform the DENTAL PROFESSION that my Laboratory has been REMOVED TO 100 NORTH TENTH STREET, where, after having made considerable improvements in my style of carving and enamels, with assistants also, I am now enabled to execute all orders with promptness and despatch.

Dentists wishing to try Vulcanite Base, can have a few cases made at a reduced price.

WM. R. HALL,

100 North Tenth Street, Philadelphia.

HORATIO G. KERN,

MANUFACTURER OF

SURGICAL & DENTAL INSTRUMENTS, FILES, &C.

The subscriber would again remind the profession that he still continues to manufacture all kinds of INSTRUMENTS, DENTAL FILES, &C.

From the flattering testimonials he has received, (of which a few are appended,) of the superior quality of his Instruments and Files, he feels confidence in his ability to produce an article fully equal to any made.

Assiduous attention to the details of the business, (with an experience of thirty years,) has enabled him to make many improvements in the *adaptation* to the specific purpose; and, as the success of an operation depends, in some degree, on the adaptation of the instruments to the particular character of the operation, it needs no argument to convince those wishing to procure instruments, of the importance of purchasing the manufacture of those of long and well established reputation. Any orders tendered him will be promptly attended to. Illustrated catalogues will be furnished on application.

HORATIO G. KERN,

No. 25 North Sixth Street, Philadelphia.

TESTIMONIALS.

501 NORTH SEVENTH STREET, *Philadelphia, June 8th, 1863.*

H. G. KERN—*Dear Sir*—The excavators which you handed me some days since I have had in constant use, and take great pleasure in stating that I believe them to be a superior article, both in their ability to retain a sharp cutting edge, and withstand the force essential to the operation.

Yours, &c.

C. N. PEIRCE, D. D. S.

MR. H. G. KERN—*Dear Sir*—The excavators recently manufactured by you have been used with the utmost satisfaction. I can give them an unqualified recommendation. Yours, respectfully,

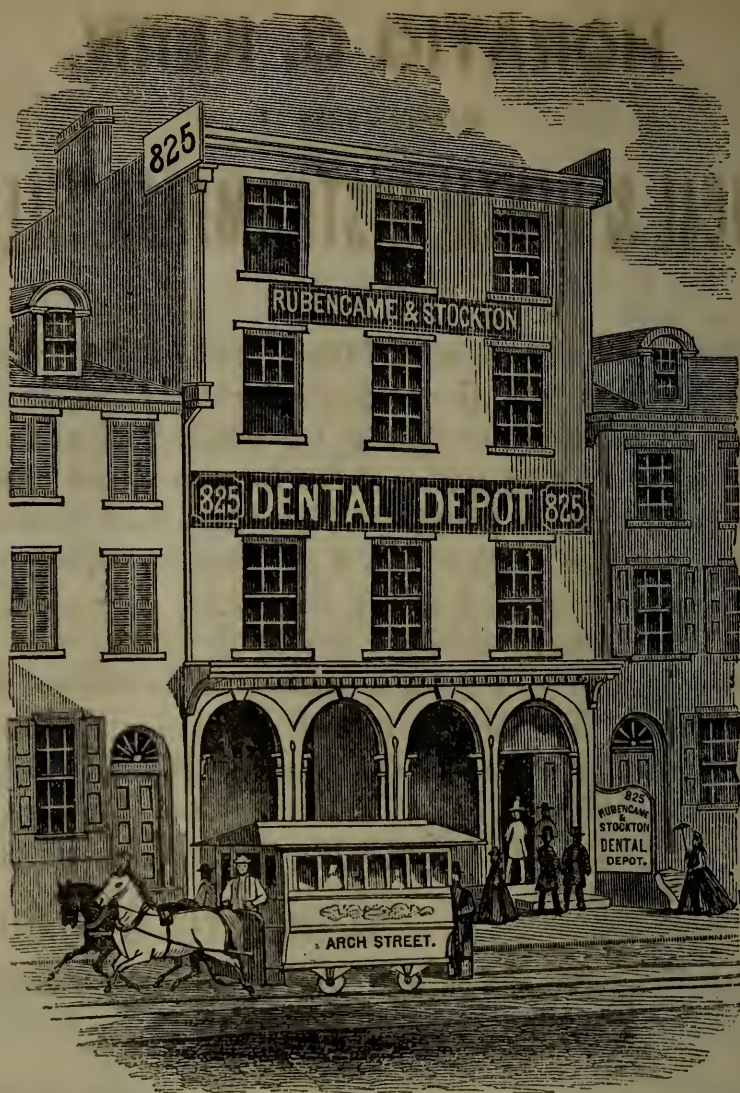
June 26th, 1863.

GEO. T. BARKER, D. D. S.

MR. H. G. KERN—*Dear Sir*—The last excavators obtained from you are of a very superior quality. I can recommend them as being equal to any I have ever used.

T. L. BUCKINGHAM, D. D. S.

June 25h, 1863.



RUBENCAME & STOCKTON, DENTAL DEPOT.

825 ARCH STREET,

PHILADELPHIA, PA.

Manufacturers of PORCELAIN TEETH, GOLD AND TIN FOILS.

Dealers in every variety of INSTRUMENTS AND MATERIALS required by the Dentist. All orders carefully and promptly filled. Write plainly, giving name and residence in full, and address

RUEBNCAME & STOCKTON, 825 Arch Street, Phila.

CARD.

The undersigned having connected himself with Messrs. RUBENCAME & STOCKTON, as a Special Partner, in the manufacture of Porcelain Teeth, Dental Material, etc., is desirous of renewing the business intercourse with the Dental Profession, which ill-health compelled him to suspend some years since.

He pledges himself that nothing shall be wanting on his part to make these renewed relations as pleasant and as satisfactory as those heretofore maintained.

Respectfully,

JOHN R. McCURDY.

RUBENCAME & STOCKTON.

ARTIFICIAL TEETH.

The subscribers take pleasure in stating, that, as a result of years of application to this particular branch of business, and by the right use of means, men and material, they are now able to produce as good an assortment of Artificial Teeth, as can be found in the country, embracing those used for both Rubber and Plate work of every variety, in size, shape and shade, and combining with all, strength and adaptation. Particular attention is directed to our more recent make, among which will be found styles and shades to suit the most fastidious. Scores of certificates are in our possession, showing the appreciation of our numerous friends, and testifying their entire satisfaction. Parties sending casts by mail, express or otherwise, can have teeth properly selected for them and receive prompt returns.

Liberal discount to dealers. Address

**RUBENCAME & STOCKTON,
825 ARCH STREET, PHILA.**

GOLD FOIL.

We are prepared to supply the Profession with a very superior quality of our own make of Gold Foil. This Foil is made of double-refined gold, and is soft and adhesive. It is put up carefully in books, each of which contains the full weight marked upon it. Below we give a few certificates, attesting its good working qualities, and its thorough fitness for even the nicest operations.

RUBENCAME & STOCKTON.

CERTIFICATES.

PHILA., June 21, 1865.

RUBENCAME & STOCKTON—*Gentlemen*—The No. 4 Gold Foil lately procured from you, works well; equal, I think, to any I have used.

Yours, &c.,

C. N. PEIRCE, 501 N. Seventh St.

PHILA.; June 20, 1865.

MESSRS. RUBENCAME & STOCKTON—I have used your Gold Foil since it was first put in the market, and can recommend it as equal, if not superior, to any I have ever used.

T. L. BUCKINGHAM, 243 N. Ninth Street.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—I have used your Gold Foil for months past, and being pleased with its good working qualities, I can have no hesitation in expressing my approbation of it in this way.

PHILA., June 26, 1865.

C. E. HOPKINS, 1115 Walnut Street.

PHILA., June 27, 1865.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—In response to your inquiry as to my opinion of your Gold Foil, I take pleasure in stating that after a trial of most of the prominent Foils in the market, I now give yours a decided preference. All that I have obtained has possessed the following prominent qualities, adhesiveness, ductility and uniformity, the last being a quality which few gold foils can claim. Yours, truly, GEORGE T. BARKER, 1111 Arch St.

RUBENCAME & STOCKTON.

TIN FOIL.

We have also for sale a superior article of CHEMICALLY PURE TIN FOIL, of our own make, which we believe will give full satisfaction. Price per book, 50 cents.

RUBENCAME & STOCKTON.

BARKER'S ETHEREAL PREPARATION.

The subscribers are the only persons duly authorized by the inventor, to manufacture the above preparation. Put up in two ounce bottles, with brush. Price 50 cents. For sale by

RUBENCAME & STOCKTON.

VULCANIZERS.

Whitney's one, two and three Case, with Thermometer, Lamp or Gas Burner, Flasks and Wrenches complete; also, an assortment of Hayes' Boilers and Ovens, ready for use.

RUBENCAME & STOCKTON.

RUBBER.

| | | | |
|------------------------------------------------|----|---|--------|
| American Hard Rubber Company's Gum, per pound, | - | - | \$5 00 |
| Gutta Percha, for impressions, | do | - | 3 00 |

RUBENCAME & STOCKTON.

RUBBER FILES.

A full assortment of Half-round and Double-end Files for rubber work, smooth, medium and course, different lengths, with and without handles, at prices ranging from 25 to 50 cents each.

RUBENCAME & STOCKTON.

RUBBER SCRAPERS.

We have just received a full assortment of SCRAPERS, of every variety and shape desirable, well made. Price 30 cents.

RUBENCAME & STOCKTON.

EXCAVATORS, PLUGGERS AND FORCEPS.

A full assortment of the best makes of instruments, embracing all the new and desirable patterns, constantly on hand and for sale by

RUBENCAME & STOCKTON.

LIQUID SILEX.

We have prepared a quantity of this material, for mending broken teeth, closing crevices between the blocks, and for varnishing casts to prevent the plaster from adhering to the rubber. Price per bottle, 25 cents.

RUBENCAME & STOCKTON.

College Avenue Anatomical School,

IN CHANT ST., OPPOSITE ST. STEPHEN'S CHURCH,

PHILADELPHIA.

WINTER ANNOUNCEMENT OF 1865-66.

The DISSECTING HALL AND OPERATIVE ROOMS of this well-established Institution will be open as usual on the 1st of September, for the ensuing session.

During the months of September and October several preliminary lectures will be given weekly, and every advantage for the prosecution of PRACTICAL ANATOMY offered to the student. The regular course of lectures on Anatomy begins about the last of October and ends the 1st of March. The lectures are given at such an hour as not to interfere with the collegiate engagements of the student. The Lecture Room and the Dissecting Rooms supplied with *ample material*, are admirably ventilated, lighted and heated, and arranged in the best possible manner for purposes of PRACTICAL DEMONSTRATION.

The ANATOMICAL MUSEUM, recently much enlarged, is supplied with preparations, plates, models, and everything necessary to ILLUSTRATE AND IMPART instruction in this fundamental branch of Medicine.

The Antiseptics now used in preparing and injecting the Cadaver, allow dissecting to be prosecuted even during the heat of Summer.

In September the rooms will be open during the entire day for the student to prosecute his work. In October, the Demonstrations in the evening will commence, and continue during the entire session until March.

During the hours for Demonstration the Lecturer or his assistant will be in the rooms to assist the student in his dissections.

W. S. FORBES, M. D.

W. A. DUFF & CO.

MANUFACTURERS OF

PORCELAIN TEETH

No. 516 ARCH STREET,
PHILADELPHIA.

We invite the attention of Dentists and Dealers to our assortment of ARTIFICIAL TEETH, believing them equal to any offered to the profession.

We are prepared to furnish every variety of PLAIN and GUM TEETH for GOLD and SILVER PLATE, and RUBBER OR VULCANITE WORK, including Block and Single Teeth, for Vulcanite, with

PATENT MACHINE-MADE DOUBLE-HEADED PINS.

These Pins have really two distinct and well-formed heads, one in the tooth, preventing the possibility of their being drawn out, and one for insertion in the Rubber. The upper central blocks have each five pins, and the lower central and side blocks each four; together, Fifty Double headed Pins in each full set, our machinery enabling us to finish them in this improved manner, in which way they are not made by any other manufacturer.

From the many testimonials received in regard to their STRENGTH, we are led to believe they are

THE STRONGEST TEETH MADE.

We are also prepared to furnish a full assortment of DENTAL INSTRUMENTS, &c., from the well-known manufacturers,

JOHN D. CHEVALIER & SONS.

Also, Lathes, Vulcanizers, Archer's Improved Dental Chairs,

FOOTSTOOLS, SPITTOONS, TRAYS, &c., &c., including the various articles used by the profession.

W. A. DUFF,
DR. J. J. GRIFFITH, D. D. S. }

W. A. DUFF & CO.,
516 Arch Street, Phila.

VOL. III.

APRIL, 1866.

NO. 4.

THE
DENTAL TIMES,

A

QUARTERLY JOURNAL

OF

DENTAL SCIENCE.

EDITED AND PUBLISHED BY

DRS. T. L. BUCKINGHAM,
G. T. BARKER,

E. WILDMAN,
W. S. FORBES,

AND

JAMES TRUMAN,

FACULTY

OF THE

Pennsylvania College of Dental Surgery.

PHILADELPHIA.

PRICE \$1.00 A YEAR, IN ADVANCE.

CONTENTS.

COMMUNICATIONS.

| | PAGE |
|--------------------------------------------------------------------------|------|
| The Deterioration of Vulcanizers, by W. H. Trueman, D. D. S.,..... | 144 |
| Dental Education, by T. L. Buckingham, D. D. S.,..... | 147 |
| Dental Surgery—Should Females Practice It? by Geo. T. Barker, D. D. S., | 152 |
| Tenth Annual Commencement of the Pennsylvania College of Dental Surgery, | 155 |

EDITORIAL.

| | |
|-------------------------------------------------------------------------------------------|-----|
| Contributions to the Museum,..... | 168 |
| Baltimore College of Dental Surgery,..... | 169 |
| New York College of Dentistry,..... | 169 |
| Instructions in the Manipulation of Hard Rubber or Vulcanite for Dental Purposes,..... | 170 |
| A New Vulcanizer,..... | 170 |
| Automatic Plugger,..... | 170 |
| Caoutchouc,..... | 170 |

TO THE PROFESSION.

In issuing the "DENTAL TIMES," we desire to make it of interest to the mass of practitioners. To this end we earnestly solicit from our professional friends, communications on any branch of our specialty. To those who hesitate because their limited time incapacitates them for writing long or elaborate articles, we would say, give us the facts and the method, and we will lay them before our readers so that all will understand and many be instructed.

Persons desiring to become subscribers, can do so by remitting the price of subscription, *one dollar per annum*, with name and address, to Dr. T. L. Buckingham, 243 North Ninth street, Philadelphia.

As we desire to keep a corrected list of the dentists in the United States, our friends and subscribers will please notify us when changing their location.

NINTH ANNUAL SESSION, 1865-'66.

| | | | |
|---------------------------|---------------|----------------------------|---------------|
| J. P. Adams,..... | New York. | H. W. More,..... | Pennsylvania. |
| Stephen Annas,..... | Cuba. | J. W. Nelson,..... | Tennessee. |
| G. K. Bagby,..... | Virginia. | Henry S. Noble,..... | New York. |
| J. M. Barrett,..... | Pennsylvania. | W. Pellett,..... | Illinois. |
| Edward Bedloe,..... | Pennsylvania. | Casimer del Portillo,..... | Cuba. |
| Henry Berhard,..... | New York. | W. B. Race,..... | New York. |
| E. M. Beesley,..... | New Jersey. | F. A. Ramsay,..... | Pennsylvania. |
| T. H. Bradfield,..... | " | H. C. Register,..... | Maryland. |
| W. G. A. Bonwill,..... | Delaware. | John E. Register,..... | Maryland. |
| F. A. Brewer,..... | Missouri. | Louis Jose Salierup,..... | Porto Rico. |
| Samuel C Britton,..... | Maryland. | Peter Schembs,..... | Pennsylvania. |
| Charles Buffett,..... | Ohio. | W. Smedley,..... | " |
| P. M. Christie,..... | Pennsylvania. | H. J. Smith,..... | " |
| R. L. Cochran,..... | Iowa. | C. W. Strang,..... | New York. |
| Wm. H. Crary,..... | New York. | James Tait,..... | Pennsylvania. |
| Frank Darby,..... | " | Henry F. Telft,..... | Maine. |
| S. C. Dayan,..... | New York. | James S. Thomas,..... | New York. |
| Edw. S. Davenport,..... | New York. | Isador Tolon,..... | Cuba. |
| Timateo P. Dias,..... | Cuba. | John R. Thompson,..... | S. Carolina. |
| Francisco Dominguez,..... | Cuba. | A. P. Tompkins,..... | Pennsylvania. |
| E. C. Flamand,..... | Cuba. | Wm. H. Trueman,..... | " |
| Hamilton Forrest,..... | Maryland. | J. J. Vanderford,..... | Maryland. |
| Simon Fran. D. D. S,..... | Cuba. | Agustin de Varone,..... | Cuba. |
| Rafael Gonzales,..... | Spain. | John H. Vedder,..... | New York. |
| Asher B. Greasemer,..... | Pennsylvania. | Francis Vega,..... | Porto Rico. |
| Albert Hape,..... | Georgia. | Erastus Walker,..... | New York. |
| L. B. Henderson,..... | N. Carolina. | Ransom Walker,..... | " |
| J. A. Hauser,..... | Pennsylvania. | W. H. Walker,..... | Wisconsin. |
| Milton Keim,..... | Michigan | Wm. C. Wardlaw,..... | S. Carolina. |
| A. Lawrance,..... | Mass. | J. B. Wheeler,..... | New York. |
| W. K. Lineaweaver,..... | Pennsylvania. | O. N. Whitney,..... | Illinois. |
| Thomas F. McClure,..... | " | Wm. Williamson,..... | Pennsylvania. |
| Daniel Martin,..... | " | E. Wilson,..... | New York. |
| Mariam Martorell,..... | Porto Rico. | J. H. Winslow,..... | " |
| Francisco Mignotte,..... | Cuba. | | |

| | | |
|---------------------------------|--------------------|-----------------------------------|
| John P. Adams,..... | New York,..... | Salivary Deposits. |
| George K. Bagby,..... | Virginia,..... | Nitrous Oxide. |
| Henry Bernhard,..... | New York,..... | Causes of Caries. |
| Thomas H. Bradfield,..... | New Jersey,..... | Inflammation. |
| Francis A. Brewer,..... | Missouri,..... | Dentistry a Science. |
| Samuel C. Britton,..... | Maryland,..... | Predisposing causes of Caries. |
| Charles Buffett,..... | Ohio,..... | Arsenic. |
| Perley M. Christie,..... | Pennsylvania,..... | Inflammation. |
| William H. Crary,..... | New York,..... | Rubber versus Metal. |
| Edward S. Davenport,..... | "..... | Iodine. |
| Franciscus Dominguez,..... | Cuba,..... | Inflammation. |
| Eugene C. Flamand,..... | "..... | The Art of Filling Teeth. |
| Hamilton Forrest,..... | Maryland,..... | Decay of the Teeth and Treatment. |
| Albert Hape,..... | Georgia,..... | Dentistry a Science. |
| John A. Hauser,..... | Pennsylvania,..... | Treatment of Exposed Pulp. |
| Milton Keim,..... | Michigan,..... | Artificial Dentures. |
| Washington K. Lineaweaver,..... | Pennsylvania,..... | Inflammation. |
| Francisco Mignotte,..... | Cuba,..... | Extracting Teeth. |
| James W. Nelson,..... | Tennessee,..... | Indigestion as a cause of Caries. |
| Henry S. Noble,..... | New York,..... | Antrum Highmorianum. |
| Francis A. Ramsay,..... | Pennsylvania,..... | Sensitive Dentine. |
| Henry C. Register,..... | Maryland,..... | Digestion. |
| Louis Jose Salierup,..... | Porto Rico,..... | Extraction of Teeth. |
| William Smedley,..... | Pennsylvania,..... | The Fifth Pair of Nerves |
| Henry J. Smith,..... | "..... | Sensitive Dentine. |
| James S. Thomas,..... | New York,..... | Chemistry. |
| William H. Trueman,..... | Pennsylvania,..... | Materials for Filling Teeth. |
| Agustin de Varone,..... | Cuba,..... | Development of the Teeth. |
| Julien J. Vanderford,..... | Maryland,..... | Dentistry. |
| John H. Vedder,..... | New York,..... | Treatment of Irregularities. |
| Ransom Walker,..... | "..... | Diagnosis. |
| William C. Wardlaw,..... | S. Carolina,..... | Anæsthesia in Dentistry. |
| John B. Wheeler,..... | New York,..... | The Dental Pulp. |
| A. Lawrance,..... | Mass. | |
| J. M. Barrett,..... | Pennsylvania. | |
| W. G. A. Bonwill,..... | Delaware. | |

IMPROVED AUTOMATIC PLUGGER.



One-half size.

SNOW & LEWIS,

No. 278 MAIN STREET, BUFFALO, N. Y.

The attention of the Dental Profession is called to this Instrument with confidence that it will be found the most efficient substitute for the mallet and assistant yet devised.

The instrument has been in use for some time, having been submitted to practical tests by some of the best operators in the country, and in every instance it has met with approbation.

The working parts are simple, and not liable to get out of order. They are contained in a handle of German silver, (silver-plated,) not larger than an ordinary ivory handle. The above cut represents the Plugger, one-half size. The Instrument is operated by pressing the point upon the gold in the cavity in the manner of an ordinary hand plugger; the socket holding the point recedes into the handle a short distance, and a blow is given, which can be varied to any one of four degrees of intensity at the will of the operator. It can be held in any position in the hand, and after a little practice, can be used in more places than a mallet.

PRICES.

| | |
|-----------------------------------------------|---------|
| Automatic Plugger, including one point, | \$13 00 |
| Extra Points, per dozen, | 3 50 |

Points of any desired pattern furnished to order.

For sale by the inventors and manufacturers,

SNOW & LEWIS,

No. 278 MAIN STREET, BUFFALO, N. Y.

HAYES'

"IRON CLAD" VULCANIZERS.

IRON CLAD OVEN.



IRON CLAD BOILER.



A demand has sprung up for thick Vulcanizers. This is not unreasonable, as now, it has become well known, that the copper machines in common use are rapidly corroded, and must, however thick when new, in course of time, become unsafe; and who shall be able to tell when that time has come. The Iron Clad is intended as a cheap and effectual remedy for this danger. The Shell is made of malleable iron, $\frac{1}{8}$ inch thick, strong enough to resist many times the strain required; and can never be exposed to detenoration. The copper lining is made the same thickness as the copper boilers now in use, and the machine may be used with perfect safety, even when the copper has become as thin as paper, and then, when an opening has been fairly eat through, steam will escape from between it and the iron shell below the packing joint, giving timely notice that a new lining is required, which can be inserted at moderate expense, and render the vessel good and safe as new.

These machines are offered to the profession, with all the improvements resulting from six years' experience in the manufacture, and will be sold at just sufficient advance in price to pay the extra cost of production.

The advantages of my Vulcanizers over any other in market consists partly in the joints being perfectly steam tight, by which vulcanization takes place in less time, at a given degree of heat, and with greater uniformity each time.

Another important peculiarity is in placing the thermometer bulb within a mercury bath, outside the steam chamber, relieving it entirely from the danger of being *crushed* by the pressure of steam, as happens when it is exposed to the steam itself. Let any one examine a bulb which has been thus exposed any length of time. He will find it checked into numerous fragments like mosaic work, ready to fall apart on the slightest jar, and wholly unreliable as an accurate test of heat.

These features are secured by letters patent, and a patent has also been granted for the "Iron Clad."

The cuts represent the "Iron Clad" standing upon coal oil heaters, which burn with open flame; without smoke; are easily regulated, and produce sufficient heat.

Price of Iron Clad Boiler for 2 flasks with Kerosene, Alcohol or Gas Burner,.....\$17 00
 Price of Iron Clad Oven for one flask, with Kerosene, Alcohol or Gas Burner,..... 15 00
 Price of Kerosene Heater alone,..... 2 50

Address,

GEORGE E. HAYES, Buffalo, N. Y.

HORATIO G. KERN,

MANUFACTURER OF

SURGICAL & DENTAL INSTRUMENTS, FILES, &C.

The subscriber would again remind the profession that he still continues to manufacture all kinds of INSTRUMENTS, DENTAL FILES, &C.

From the flattering testimonials he has received, (of which a few are appended,) of the superior quality of his Instruments and Files, he feels confidence in his ability to produce an article fully equal to any made.

Assiduous attention to the details of the business, (with an experience of thirty years,) has enabled him to make many improvements in the *adaptation* to the specific purpose; and, as the success of an operation depends, in some degree, on the adaptation of the instruments to the particular character of the operation, it needs no argument to convince those wishing to procure instruments, of the importance of purchasing the manufacture of those of long and well established reputation. Any orders tendered him will be promptly attended to. Illustrated catalogues will be furnished on application.

HORATIO G. KERN,

No. 25 North Sixth Street, Philadelphia.

TESTIMONIALS.

501 NORTH SEVENTH STREET, *Philadelphia, June 8th, 1863.*

H. G. KERN—*Dear Sir*—The excavators which you handed me some days since I have had in constant use, and take great pleasure in stating that I believe them to be a superior article, both in their ability to retain a sharp cutting edge, and withstand the force essential to the operation.

Yours, &c.

C. N. PEIRCE, D. D. S.

MR. H. G. KERN—*Dear Sir*—The excavators recently manufactured by you have been used with the utmost satisfaction. I can give them an unqualified recommendation. Yours, respectfully,

June 26th, 1863.

GEO. T. BARKER, D. D. S.

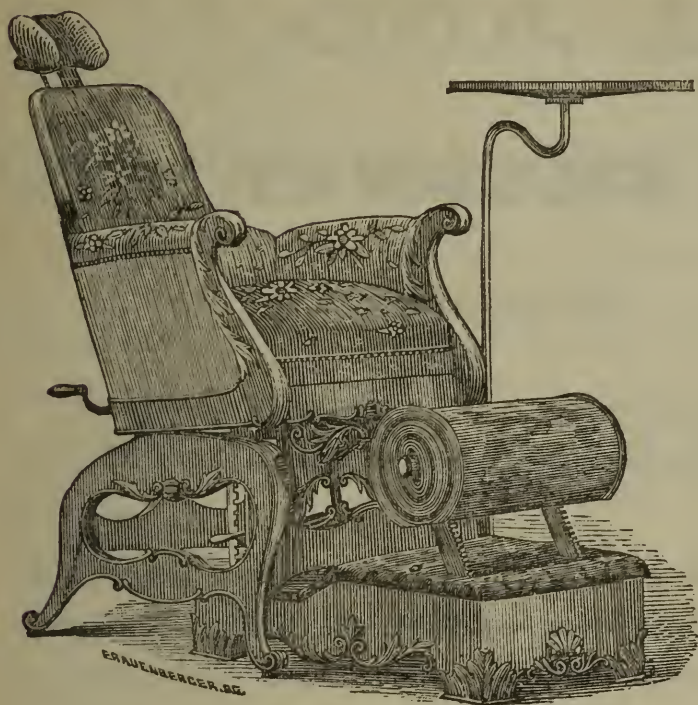
MR. H. G. KERN—*Dear Sir*—The last excavators obtained from you are of a very superior quality. I can recommend them as being equal to any I have ever used.

June 25h, 1863.

T. L. BUCKINGHAM, D. D. S.

R. W. ARCHER'S IMPROVED DENTAL CHAIR.

Patented September 4, 1860.



This Dental Operating Chair is fast coming into universal use. It is the most *convenient*, the most *durable*, and the cheapest Chair in use. For complete description and list of prices, send for catalogue to

R. W. ARCHER, Rochester, N. Y.
Sold at all the principal Dental Depots in this country.

CHARLES ABBEY & SONS, MANUFACTURERS OF DENTISTS' FINE GOLD AND TIN FOIL, NOS. 228 & 230 PEAR STREET, PHILADELPHIA.

The attention of Dentists is invited to our **FINE GOLD FOIL**, which is prepared under our constant personal supervision. Our Nos. are 4, 5, 6, 8 and 10.

We are also manufacturing an **ADHESIVE FINE GOLD FOIL**, Nos. 4, 5 and 6.

ALL our Gold Foil is manufactured from **ABSOLUTELY PURE GOLD**, prepared expressly for the purpose, with great care, by ourselves.

DENTISTS' REFINED TIN FOIL CONSTANTLY ON HAND.

Address

CHARLES ABBEY & SONS,

Philadelphia

A. JONES,

No. 724 BROADWAY, N. Y.,

WHILE THANKING THE

DENTAL PROFESSION

For the very liberal patronage they have extended to him for the last twenty-five years, begs leave to say, that he still continues his business as usual at the above number, where may be found

All Articles in the Dental Line,

Of his own, and other manufacturers, of the most

SUPERIOR QUALITY,

AND

At the Most Favorable Prices.

All orders from abroad will be punctually and thoroughly attended to.

JOHN KLEIN

REMOVED

TO THE S. W. CORNER OF TENTH & ARCH STS.

PHILADELPHIA, PENNA.,

WHERE HE HAS OPENED A LARGE

DENTAL DEPOT AND MANUFACTORY,

For the Sale of the Latest Improved Teeth,

FOR ALL KINDS OF RUBBER AND PLATE WORK,

WITH DOUBLE HEADED PINS.

Together with a large assortment of all kinds of Dental Instruments, and other articles needed by the profession.

All orders promptly filled. Also on hand, lots of Flaming Testimonials, as regards the quality of my Porcelain Teeth, from some of the best Dentists in the profession.

NEALL, McCURDY & NEALL,

SUCCESSORS TO

SAMUEL W. NEALL,

MANUFACTURERS OF PORCELAIN TEETH

AND

DENTISTS' MATERIALS.

DENTAL DEPOT,

534 Arch St., south-east corner of Sixth,

PHILADELPHIA, PENNA.

LUTHER'S

ADAMANTEAN WHITE-FILLING.

This invaluable preparation is now used by, and meets the approbation of intelligent and experienced Dentists in every State in the Union as being the only Self-hardening filling known that will retain its integrity and metallic color, without turning black and discoloring the teeth, and as being in all respects unequalled as a substitute for Gold, in cases where the latter is inadmissible, on account either of the great extent of the decay, the extreme tenderness of the tooth, the difficulty of access to the cavity, or from motives of economy.

| | | | | |
|-----------------------------------|---|---|---|---------------|
| Packages containing 1 oz., | - | - | - | \$3.00 |
| Do. do. 6 dwts., | - | - | - | 1.00 |

Sent, post paid, on receipt of money. For Circular enclose return postage. Address

H. GILES LUTHER, Dentist,

84 East Twenty-second Street,

NEW YORK.

ROBERTS' OS-ARTIFICIAL

A substitute for AMALGAM in filling badly decayed teeth; and used for resetting PIVOT TEETH in badly decayed roots; also for filling over SENSITIVE DENTINE to destroy sensibility, and as a non-conductor of heat, and for many other DENTAL PURPOSES.

For sale by all dealers in *Dental Materials* and by the undersigned.

One-fourth ounce packages, with directions, sent by mail free of postage, on receipt of \$1.

C. H. ROBERTS, M. D.,

POUGHKEEPSIE, N. Y.

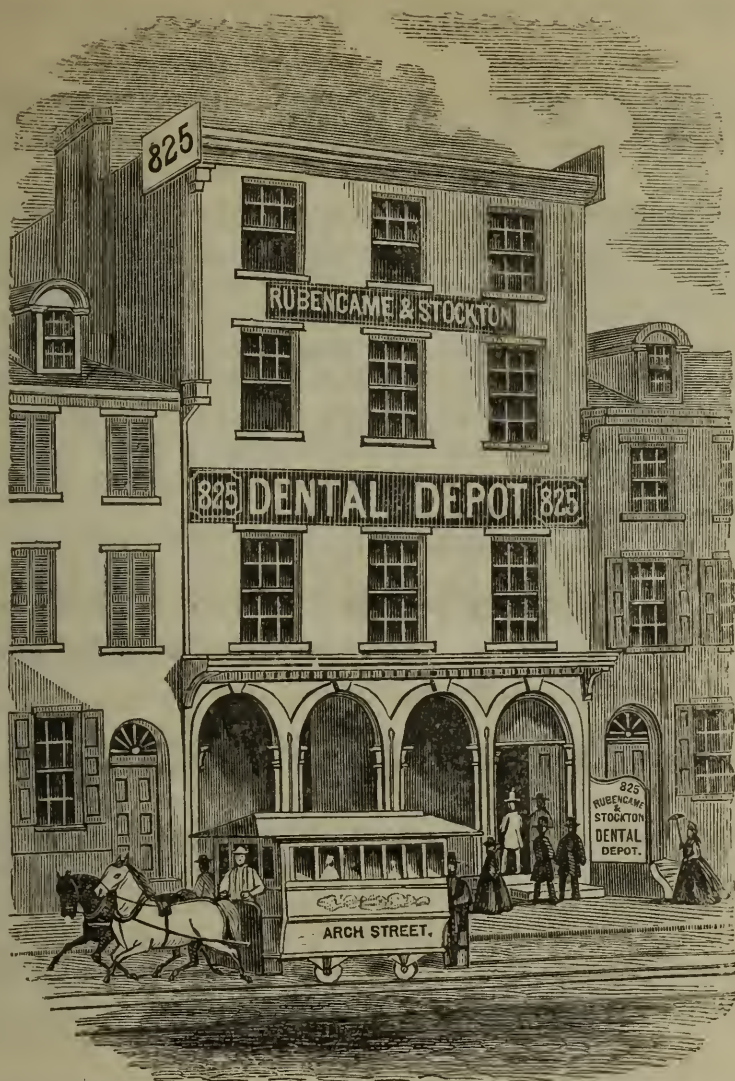
BLOCK TEETH AND VULCANITE.

I would respectfully inform the DENTAL PROFESSION that my Laboratory has been REMOVED TO 100 NORTH TENTH STREET, where, after having made considerable improvements in my style of carving and enamels, with assistants also, I am now enabled to execute all orders with promptness and despatch.

Dentists wishing to try Vulcanite Base, can have a few cases made at a reduced price.

WM. R. HALL,

100 North Tenth Street, Philadelphia.



RUBENCAME & STOCKTON, DENTAL DEPOT.

825 ARCH STREET,

PHILADELPHIA, PA.

Manufacturers of PORCELAIN TEETH, GOLD AND TIN FOILS.

Dealers in every variety of INSTRUMENTS AND MATERIALS required by the Dentist. All orders carefully and promptly filled. Write plainly, giving name and residence in full, and address

RUBENCAME & STOCKTON, 825 Arch Street, Phila.

CARD.

The undersigned having connected himself with Messrs. RUBENCAME & STOCKTON, as a Special Partner, in the manufacture of Porcelain Teeth, Dental Material, etc., is desirous of renewing the business intercourse with the Dental Profession, which ill-health compelled him to suspend some years since.

He pledges himself that nothing shall be wanting on his part to make these renewed relations as pleasant and as satisfactory as those heretofore maintained.

Respectfully,

JOHN R. McCURDY.

RUBENCAME & STOCKTON.

PORCELAIN TEETH.

Our teeth continue to give the utmost satisfaction to all who use them. The many improvements we are introducing in styles and shades are gaining for us new friends every day, and from all parts of the country we are in receipt of the highest encomiums. Already it is conceded, by a large proportion of the dental profession, that our make of teeth stand foremost in every particular. Many are the statements which we receive, directly and indirectly, asserting, with emphasis, that they are equal to any, and even superior to most of those offered by other manufacturers.

To any who have not used our teeth, we would say, give us a fair trial. All orders promptly attended to.

Our terms to consumers and dealers are liberal. Address

**RUBENCAME & STOCKTON,
825 ARCH STREET, PHILA.**

GOLD FOIL.

We are prepared to supply the Profession with a very superior quality of our own make of Gold Foil. This Foil is made of double-refined gold, and is soft and adhesive. It is put up carefully in books, each of which contains the full weight marked upon it. Below we give a few certificates, attesting its good working qualities, and its thorough fitness for even the nicest operations.

RUBENCAME & STOCKTON.

CERTIFICATES.

PHILA., June 21, 1865.

RUBENCAME & STOCKTON—*Gentlemen*—The No. 4 Gold Foil lately procured from you, works well; equal, I think, to any I have used.

Yours, &c.,

C. N. PEIRCE, 501 N. Seventh St.

PHILA., June 20, 1865.

MESSRS. RUBENCAME & STOCKTON—I have used your Gold Foil since it was first put in the market, and can recommend it as equal, if not superior, to any I have ever used.

T. L. BUCKINGHAM, 243 N. Ninth Street.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—I have used your Gold Foil for months past, and being pleased with its good working qualities, I can have no hesitation in expressing my approbation of it in this way.

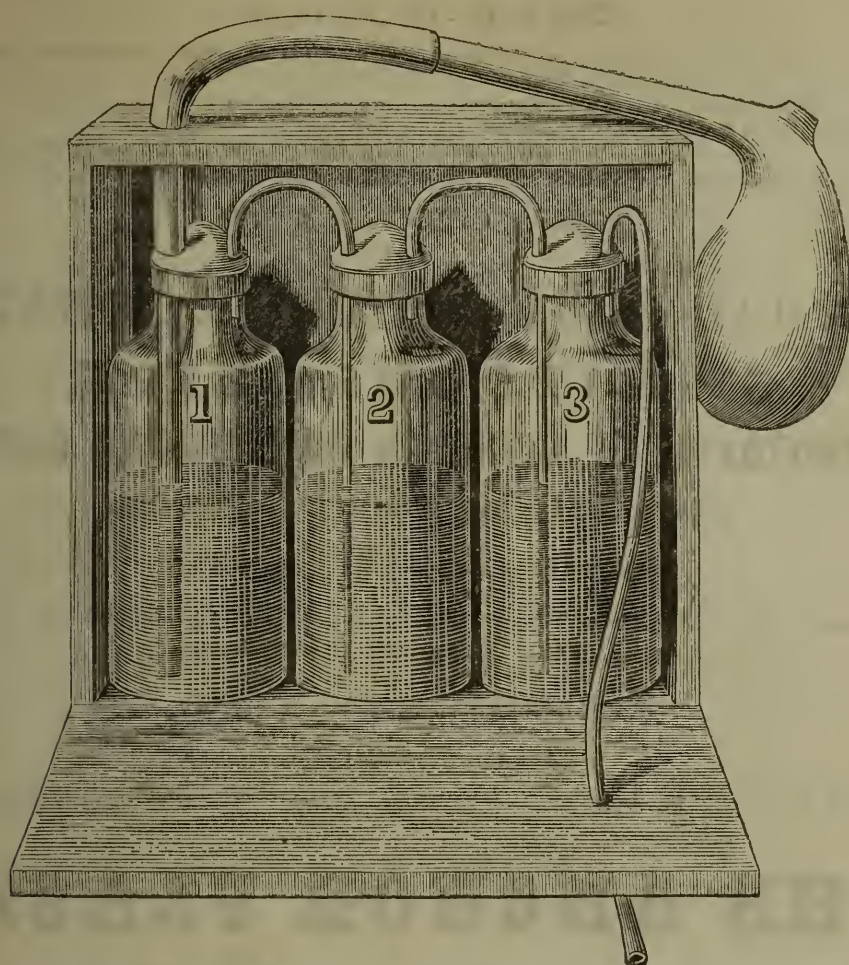
PHILA., June 26, 1865.

C. E. HOPKINS, 1115 Walnut Street.

PHILA., June 27, 1865.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—In response to your inquiry as to my opinion of your Gold Foil, I take pleasure in stating that after a trial of most of the prominent Foils in the market, I now give yours a decided preference. All that I have obtained has possessed the following prominent qualities, adhesiveness, ductility and uniformity, the last being a quality which few gold foils can claim. Yours, truly, GEORGE T. BARKER, 1111 Arch St.

RUBENCAME & STOCKTON.



The above cut represents DR. MOSELEY'S NITROUS OXIDE GAS GENERATOR, with Retort in position on top, and one side let down so as to show the inside fixtures.

This is the most COMPACT, EFFICIENT and ECONOMICAL Apparatus ever offered to the dental profession. The Gas is thoroughly washed by being forced through the chemical baths, and is ready for immediate use. Twenty minutes will suffice to make enough for one operation.

The size of the Generator is sixteen inches long, four inches wide, and fourteen inches deep, and the weight about ten pounds.

THE PRICE HAS BEEN SO REDUCED, that we can now furnish the Apparatus complete, (including the Generator, Retort, Inhaling Bag, (7 gall.) Rubber Mouth-piece, and two sets of Chemicals,) for *twenty-five dollars*. Boxing, extra, one dollar and fifty cents.

LIST OF PRICES.

| | |
|----------------------------------------------------|---------|
| Gas Generator, Retort, and two sets Chemicals..... | \$15 00 |
| Inhaling Bag, 5 gallons..... | 6 75 |
| " " 6 " | 7 25 |
| " " 7 " | 7 75 |
| Gasometer, 40 " | 18 00 |
| Retorts, quarts, | 1 00 |
| Rubber Mouth-piece..... | 2 50 |
| Ammonia, Fused, best, per pound..... | 90 |
| " Crystalized, best, per pound..... | 75 |

RUBENCAME & STOCKTON,

825 ARCH STREET, PHILA.

RUBENCAME & STOCKTON.

TAKE NOTICE.

A short man, with red hair, red whiskers, and scar on one cheek, is traveling through the country, and offering teeth for sale which he represents as of our make. He claims also to be an agent for a new vulcanite base, and talks glibly. We pronounce him an impostor, and caution all parties against having any dealings with him.

RUBENCAME & STOCKTON, 825 Arch street. Phila.

INSTRUCTIONS

IN THE

PREPARATION, ADMINISTRATION and PROPERTIES OF NITROUS OXIDE, PROTOXIDE OF NITROGEN OR LAUGHING GAS, FOR DENTAL AND SURGICAL PURPOSES,

BY GEO. T. BARKER, D. D. S.,

Professor of Principles of Dental Surgery and Therapeutics in the
Pennsylvania College of Dental Surgery.

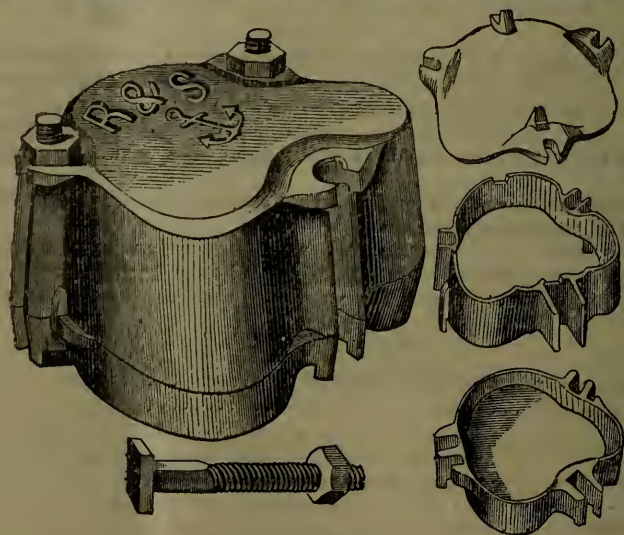
RUBENCAME & STOCKTON,

PHILADELPHIA, 1866.

Will be ready in April.

Price, one dollar.

THE ANCHOR FLASK.



THE LATEST! THE STRONGEST! THE BEST!

| | |
|--------------------------------|--------|
| Price, Brass, each,..... | \$2 00 |
| " Iron, Galvanized, each,..... | 1 50 |
| " " each,..... | 1 25 |
| " Bolt and Nut,..... | 10 |
| " Wrench,..... | 10 |

RUBENCAME & STOCKTON, 825 Arch Street, Phila.

WHITNEY'S IMPROVED VULCANIZERS.



FOR ALCOHOL & GAS



FOR KEROSENE.

From the large advance in the price of all the materials used in the manufacture of vulcanizers—in the labor and government tax—I am compelled to advance the price of my machines enough to cover the increased cost of manufacture.

I have kept along, at the old prices, during the last year and a half, realizing very little profit, hoping that prices would go down, but from the continual advance such cannot be expected.

LIST OF PRICES.

| | |
|-------------------------------------------------------------------|---------|
| Vulcanizers, 2 Flask, Lamp or Gas Burner, complete for use, . . . | \$15 75 |
| “ 3 “ “ “ “ “ . . . | 16 80 |
| Extra, for both Lamp and Gas Burner, | 50 |
| “ Thermometer, Tube and Scale, (by mail 6 cents postage,) . . . | 1 00 |
| “ Flasks of Malleable Iron, | 87½ |
| “ Lamps, | 75 |
| “ Gas Burner, | 75 |
| “ Wrench for Flask, | 10 |
| “ Round Wrench, | 30 |
| “ Straight “ | 25 |
| “ Bolts for Flask, (per set of 3,) | 18 |
| “ Packing, per strip, | 5 |
| Kerosene Stove adapted to this Vulcanizer, | 2 75 |
| When packed for Shipping, box, | 25 |

☞ The Government Tax on these Machines is five per cent., which is added to the above prices.

All orders promptly attended to.

B. T. WHITNEY.

For sale at all Dental Depots.

W. A. DUFF & CO.

MANUFACTURERS OF

**PORCELAIN TEETH,
No. 516 ARCH STREET,
PHILADELPHIA.**

We invite the attention of Dentists and Dealers to our assortment of **ARTIFICIAL TEETH**, believing them equal to any offered to the profession.

We are prepared to furnish every variety of **PLAIN** and **GUM TEETH** for **GOLD** and **SILVER PLATE**, and **RUBBER** OR **VULCANITE WORK**, including **Block** and **Single Teeth**, for **Vulcanite**, with

PATENT MACHINE-MADE

DOUBLE-HEADED PINS.

These Pins have really two distinct and well-formed heads, one in the tooth, preventing the possibility of their being drawn out, and one for insertion in the Rubber. The upper central blocks have each five pins, and the lower central and side blocks each four; together, Fifty Double-headed Pins in each full set, our machinery enabling us to finish them in this improved manner, in which way they are not made by any other manufacturer.

From the many testimonials received in regard to their **STRENGTH**, we are led to believe they are

THE STRONGEST TEETH MADE.

WE ARE ALSO PREPARED TO FURNISH

Lathes, Vulcanisers, Chairs, &c. &c.

Also, a neat and complete apparatus for manufacturing

NITROUS OXIDE GAS.

W. A. DUFF,
DR. J. J. GRIFFITH, D. D. S. }

W. A. DUFF & CO.,
516 Arch Street, Phila.

VOL. IV.

JULY, 1866.

NO. 1.

THE
DENTAL TIMES,
' A
QUARTERLY JOURNAL
OF
DENTAL SCIENCE.

EDITED AND PUBLISHED BY

DRS. T. L. BUCKINGHAM,
G. T. BARKER,

E. WILDMAN,
W. S. FORBES,

AND
JAMES TRUMAN,

FACULTY

OF THE

Pennsylvania College of Dental Surgery.

PHILADELPHIA.

PRICE \$1.00 A YEAR, IN ADVANCE.

CONTENTS.

COMMUNICATIONS.

| | PAGE |
|-------------------------------------------------------------|------|
| Caoutchouc, by E. Wildman, M. D., D. D. S.,..... | 1 |
| Organization, by S. Marshall,.. | 10 |
| Necessity of Testing Kerosene Oil, by George E. Hayes,..... | 13 |
| Phenol Sodique, by M. P. Linton, M. D.,..... | 15 |
| Dental Education, by W. G. A. Bonwill, D. D. S.,..... | 18 |
| Obituary—D. C. Ambler, M. D., by A. T.,..... | 26 |
| Amalgam Fillings, by Occidental,.. | 27 |
| American Dental Association,..... | 28 |

EDITORIAL.

| | |
|---------------------------------------------|----|
| Nitrous Oxide,..... | 29 |
| Contributions to the Museum,.... | 29 |
| American Dental Convention,..... | 29 |
| Connecticut State Dental Association, | 29 |

TO THE PROFESSION.

In issuing the "DENTAL TIMES," we desire to make it of interest to the mass of practitioners. To this end we earnestly solicit from our professional friends, communications on any branch of our specialty. To those who hesitate because their limited time incapacitates them for writing long or elaborate articles, we would say, give us the facts and the method, and we will lay them before our readers so that all will understand and many be instructed.

Persons desiring to become subscribers, can do so by remitting the price of subscription, *one dollar per annum*, with name and address, to Dr. T. L. Buckingham, 243 North Ninth street, Philadelphia.

As we desire to keep a corrected list of the dentists in the United States, our friends and subscribers will please notify us when changing their location.

ARTIFICIAL TEETH.



PRIZE MEDAL

AWARDED TO

JOHNSON & LUND,

AT THE

**WORLD'S FAIR IN PRUSSIA,
1865,**

FOR EXCELLENCE IN THE MANUFACTURE OF ARTIFICIAL TEETH.

The attention of Dentists is called to our late patterns of

BLOCK TEETH FOR RUBBER BASE.

In claiming for them

BEAUTY, NATURAL APPEARANCE & TOUGHNESS,

We are endorsed by all who have given them a trial, as well as by the fact that we have just received a PRIZE MEDAL at the World's Fair in Prussia, for excellence in the manufacture of Artificial Teeth.

Our assortment of Block Teeth for Rubber Base is quite varied.

PRICES.

| | |
|------------------------------------------|-----------|
| Blocks or Sections for Rubber Base,..... | 20 cents. |
| Single Gum Teeth, " "..... | 20 " |
| " " Plate Work,..... | 20 " |
| Plain Teeth, for Plate Work..... | 10 " |
| " " for Rubber Work,..... | 10 " |
| Pivot Teeth,..... | 8 " |

NOTICE.

Our Teeth for Rubber Work have DOUBLE-HEADED PINS. These are distinct and well formed. One of them is really inserted IN the tooth, the other is at the extremity of the pin, OUTSIDE. We thus secure a firm resistance in the body of the tooth, and ample space for the retention of the rubber around the pin ou'side. Our customers pronounce them "Excelsior."

A Liberal Discount made to Wholesale Dealers.

JOHNSON & LUND.

PRICE REDUCED.

IMPROVED AUTOMATIC PLUGGER.



One-half size.

SNOW & LEWIS,

No. 278 MAIN STREET, BUFFALO, N. Y.

The attention of the Dental Profession is called to this Instrument with confidence that it will be found the most efficient substitute for the mallet and assistant yet devised.

The instrument has been in use for some time, having been submitted to practical tests by some of the best operators in the country, and in every instance it has met with approbation.

The working parts are simple, and not liable to get out of order. They are contained in a handle of German silver, (silver-plated,) not larger than an ordinary ivory handle. The above cut represents the Plugger, one-half size. The Instrument is operated by pressing the point upon the gold in the cavity in the manner of an ordinary hand plugger; the socket holding the point recedes into the handle a short distance, and a blow is given, which can be varied to any one of four degrees of intensity at the will of the operator. It can be held in any position in the hand, and after a little practice, can be used in more places than a mallet.

PRICES.

We have reduced our price on and after July 1st, as follows:

| | |
|-------------------------------------------------------------|---------|
| Automatic Plugger, | \$10 00 |
| Extra Points, per dozen, | 3 50 |
| Points in the rough, fitted to the socket, per dozen, | 1 50 |

Points of any desired pattern furnished to order. All styles of Atkinson's and Abbot's points constantly on hand. The plugger will be sent by express or mail on receipt of price, otherwise by express, C. O. D., with charges.

For sale by the inventors and manufacturers,

SNOW & LEWIS,

No. 278 MAIN STREET, BUFFALO, N. Y.

HAYES' VULCANIZERS.

LIST OF PRICES.

IRON CLAD OVEN.



IRON CLAD BOILER.



| | |
|-------------------------------------------------------------------------------|---------|
| Iron Clad Oven for one flask, with Kerosene, Alcohol, or Gas Burner,..... | \$15 00 |
| Iron Clad Oven for two flasks, with Kerosene, Alcohol, or Gas Burner,..... | 16 00 |
| Iron Clad Boiler for two flasks, with Kerosene, Alcohol, or Gas Burner,..... | 17 00 |
| Vulcanizing Boiler, of copper, for two cases, including two flasks, &c ,..... | 15 75 |
| Vulcanizing Boiler, of copper, for three cases, including three flasks,..... | 16 80 |
| Kerosene Heater alone, including Stand for Vulcanizer,.... | 2 50 |
| Thermometer for Vulcanizing Oven or Boiler,..... | 2 00 |
| Thermometer Tube and Scale, for Vulcanizing Oven or Boiler,..... | 1 00 |
| Automatic Burner,..... | 1 50 |
| Alcohol Holder, | 25 |
| Flask for Vulcanizing Oven or Boiler, each,..... | 50 |
| Clamp for Flask,..... | 50 |
| Wrench for Vulcanizing Oven or Boiler,..... | 25 |
| Packing Duster and contents,..... | 25 |
| Extra Packing, each,..... | 10 |
| Extra Gas Fixtures,..... | 50 |

Orders to insure prompt attention should contain cash Correct change will be returned with the goods. When not so accompanied, the express charge for collection will invariably be added. Pamphlets sent gratuitously. Address,

GEORGE E. HAYES,

Corner Main and South Division Sts., Buffalo, N. Y.

DR. B. WOOD'S

PLASTIC METALS FOR DENTAL USE

MANUFACTURED BY THE PROPRIETOR, ALBANY, N. Y.

WOOD'S PLASTIC METALLIC FILLING. (Patented March 20, 1860, and September 4, 1864.) Price \$3 an ounce, Troy weight. Put up in 1 oz., $\frac{2}{3}$ oz. and $\frac{1}{3}$ oz., ingots, each stamped with the name of the Patentee and the date of both patents.

WOOD'S AMALGAMATED FILLING.—\$2 an ounce.—It contains a small proportion of mercury, and the ingots are accordingly stamped "AMALGAMATED."

WOOD'S PLASTIC FUSIBLE METAL.—For Mechanical Dentistry.—Repairing Rubber Work—and for Solder, etc.—(Patent March 20, 1860.) \$1.50 per oz.—This is not designed for filling teeth—requiring too high a heat, &c. It is distinguished from the "Filling" by the patent mark.

WOOD'S SILVER AMALGAM.—In filings, \$4 an ounce. It requires less mercury than the ordinary preparations, and is superior in all the other requisites. Sample packages of $\frac{1}{4}$ oz., at \$1.

PLUGGERS FOR USING THE PLASTIC METALLIC FILLING, &c.—In sets of 8 or 12, steel handles, at \$3 and \$4.50 a set, respectively. Each instrument is stamped—"WOOD'S PATENT, FEB. 28, 1865," any offered for sale that are not so stamped are infringements.

All letters should enclose stamps for return postage.

ADDRESS

B. WOOD, M. D., Dentist,

ALBANY., N. Y.

HORATIO G. KERN,

MANUFACTURER OF

SURGICAL & DENTAL INSTRUMENTS, FILES, &C.

The subscriber would again remind the profession that he still continues to manufacture all kinds of INSTRUMENTS, DENTAL FILES, &C.

From the flattering testimonials he has received, (of which a few are appended,) of the superior quality of his Instruments and Files, he feels confidence in his ability to produce an article fully equal to any made.

Assiduous attention to the details of the business, (with an experience of thirty years,) has enabled him to make many improvements in the *adaptation* to the specific purpose; and, as the success of an operation depends, in some degree, on the adaptation of the instruments to the particular character of the operation, it needs no argument to convince those wishing to procure instruments, of the importance of purchasing the manufacture of those of long and well established reputation. Any orders tendered him will be promptly attended to. Illustrated catalogues will be furnished on application.

HORATIO G. KERN,

No. 25 North Sixth Street, Philadelphia.

TESTIMONIALS.

501 NORTH SEVENTH STREET, *Philadelphia, June 8th, 1863.*

H. G. KERN—*Dear Sir*—The excavators which you handed me some days since I have had in constant use, and take great pleasure in stating that I believe them to be a superior article, both in their ability to retain a sharp cutting edge, and withstand the force essential to the operation.

Yours, &c.

C. N. PEIRCE, D. D. S.

MR. H. G. KERN—*Dear Sir*—The excavators recently manufactured by you have been used with the utmost satisfaction. I can give them an unqualified recommendation. Yours, respectfully,

June 26th, 1863.

GEO. T. BARKER, D. D. S.

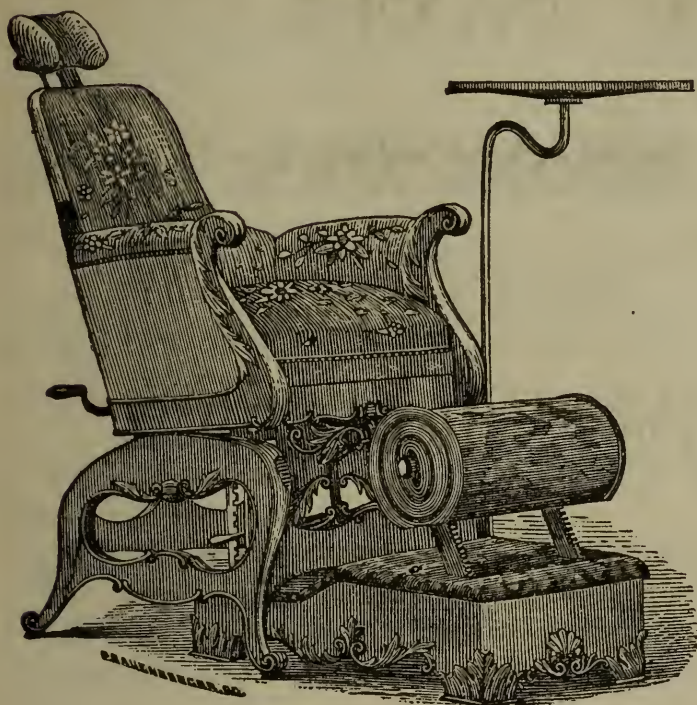
MR. H. G. KERN—*Dear Sir*—The last excavators obtained from you are of a very superior quality. I can recommend them as being equal to any I have ever used.

June 25h, 1863.

T. L. BUCKINGHAM, D. D. S.

R. W. ARCHER'S IMPROVED DENTAL CHAIR.

Patented September 4, 1860.



This Dental Operating Chair is fast coming into universal use. It is the most *convenient*, the most *durable*, and the cheapest Chair in use. For complete description and list of prices, send for catalogue to

R. W. ARCHER, Rochester, N. Y.
Sold at all the principal Dental Depots in this country.

CHARLES ABBEY & SONS,
MANUFACTURERS OF
DENTISTS' FINE GOLD AND TIN FOIL,
NOS. 228 & 230 PEAR STREET,
PHILADELPHIA.

The attention of Dentists is invited to our **FINE GOLD FOIL**, which is prepared under our constant personal supervision. Our Nos. are 4, 5, 6, 8 and 10.

We are also manufacturing an **ADHESIVE FINE GOLD FOIL**, Nos. 4, 5 and 6.

ALL our Gold Foil is manufactured from **ABSOLUTELY PURE GOLD**, prepared expressly for the purpose, with great care, by ourselves.

DENTISTS' REFINED TIN FOIL CONSTANTLY ON HAND.

Address

CHARLES ABBEY & SONS,

Philadelphia

A. JONES,
No. 724 BROADWAY, N. Y.,

WHILE THANKING THE
DENTAL PROFESSION

For the very liberal patronage they have extended to him for the last twenty-five years, begs leave to say, that he still continues his business as usual at the above number, where may be found

All Articles in the Dental Line,

Of his own, and other manufacturers, of the most

SUPERIOR QUALITY,

AND

At the Most Favorable Prices.

All orders from abroad will be punctually and thoroughly attended to

JOHN KLEIN

REMOVED

TO THE S. W. CORNER OF TENTH & ARCH STS.

PHILADELPHIA, PENNA.,

WHERE HE HAS OPENED A LARGE

DENTAL DEPOT AND MANUFACTORY,

For the Sale of the Latest Improved Teeth,

FOR ALL KINDS OF RUBBER AND PLATE WORK,

WITH DOUBLE HEADED PINS.

Together with a large assortment of all kinds of Dental Instruments, and other articles needed by the profession.

All orders promptly filled. Also on hand, lots of Flaming Testimonials, as regards the quality of my Porcelain Teeth, from some of the best Dentists in the profession.

NEALL, McCURDY & NEALL,

SUCCESSORS TO

SAMUEL W. NEALL,

MANUFACTURERS OF PORCELAIN TEETH

AND

DENTISTS' MATERIALS.

DENTAL DEPOT,

534 Arch St., south-east corner of Sixth,

PHILADELPHIA, PENNA.

LUTHER'S ADAMANTEAN WHITE-FILLING.

This invaluable preparation is now used by, and meets the approbation of intelligent and experienced Dentists in every State in the Union as being the only Self-hardening filling known that will retain its integrity and metallic color, without turning black and discoloring the teeth, and as being in all respects unequalled as a substitute for Gold, in cases where the latter is inadmissible, on account either of the great extent of the decay, the extreme tenderness of the tooth, the difficulty of access to the cavity, or from motives of economy.

| | | | | |
|-----------------------------------|---|---|---|---------------|
| Packages containing 1 oz., | - | - | - | \$3.00 |
| Do. do. 6 dwts., | - | - | - | 1.00 |

Sent, post paid, on receipt of money. For Circular enclose return postage. Address

H. GILES LUTHER, Dentist,

84 East Twenty-second Street,

NEW YORK.

ROBERTS' OS-ARTIFICIAL

A substitute for AMALGAM in filling badly decayed teeth; and used for resetting PIVOT TEETH in badly decayed roots; also for filling over SENSITIVE DENTINE to destroy sensibility, and as a non-conductor of heat, and for many other DENTAL PURPOSES.

For sale by all dealers in *Dental Materials* and by the undersigned.

One-fourth ounce packages, with directions, sent by mail free of postage, on receipt of \$1.

C. H. ROBERTS, M. D.,

POUGHKEEPSIE, N. Y.

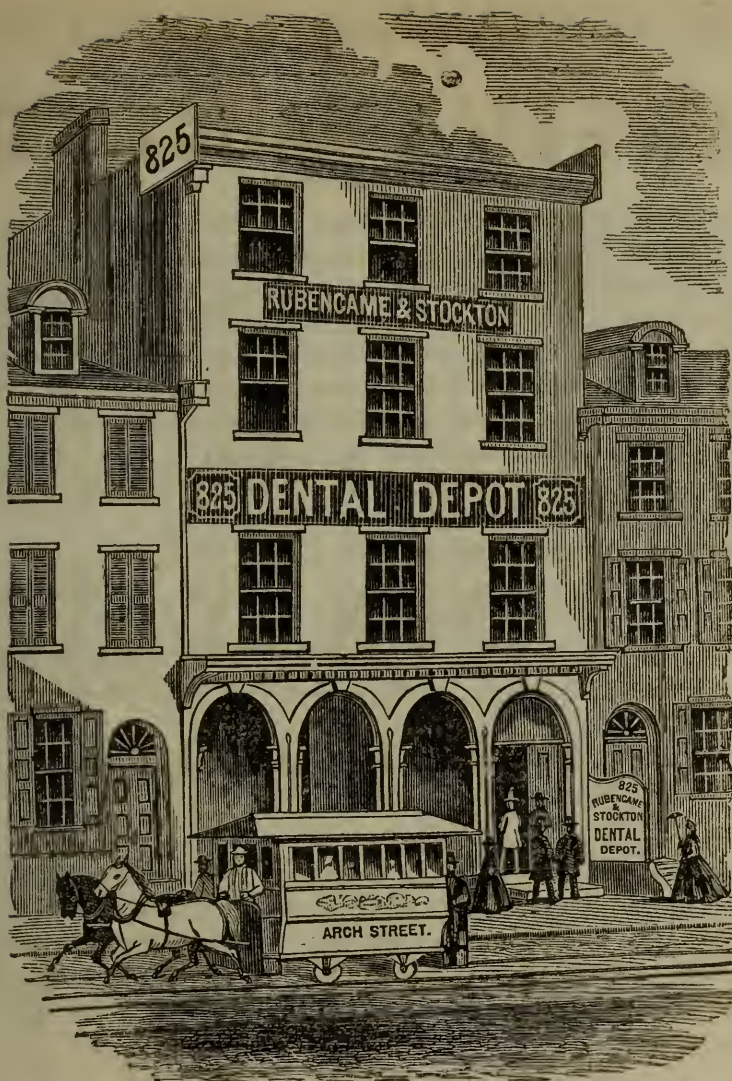
BLOCK TEETH AND VULCANITE.

I would respectfully inform the DENTAL PROFESSION that my Laboratory has been REMOVED TO 100 NORTH TENTH STREET, where, after having made considerable improvements in my style of carving and enamels, with assistants also, I am now enabled to execute all orders with promptness and despatch.

Dentists wishing to try Vulcanite Base, can have a few cases made at a reduced price.

WM. R HALL,

100 North Tenth Street, Philadelphia.



RUBENCAME & STOCKTON, DENTAL DEPOT.

825 ARCH STREET,

PHILADELPHIA, PA.

Manufacturers of PORCELAIN TEETH, GOLD AND TIN FOILS.

Dealers in every variety of INSTRUMENTS AND MATERIALS required by the Dentist. All orders carefully and promptly filled. Write plainly, giving name and residence in full, and address

RUBENCAME & STOCKTON, 825 Arch Street, Phila.

CARD.

The undersigned having connected himself with Messrs. RUBENCAME & STOCKTON, as a Special Partner, in the manufacture of Porcelain Teeth, Dental Material, etc., is desirous of renewing the business intercourse with the Dental Profession, which ill-health compelled him to suspend some years since.

He pledges himself that nothing shall be wanting on his part to make these renewed relations as pleasant and as satisfactory as those heretofore maintained.

Respectfully,

JOHN R. McCURDY.

RUBENCAME & STOCKTON.

PORCELAIN TEETH.

Our teeth continue to give the utmost satisfaction to all who use them. The many improvements we are introducing in styles and shades are gaining for us new friends every day, and from all parts of the country we are in receipt of the highest encomiums. Already it is conceded, by a large proportion of the dental profession, that our make of teeth stand foremost in every particular. Many are the statements which we receive, directly and indirectly, asserting, with emphasis, that they are equal to any, and even superior to most of those offered by other manufacturers.

To any who have not used our teeth, we would say, give us a fair trial. All orders promptly attended to.

Our terms to consumers and dealers are liberal. Address

RUBENCAME & STOCKTON,
825 ARCH STREET, PHILA.

GOLD FOIL.

We are prepared to supply the Profession with a very superior quality of our own make of Gold Foil. This Foil is made of double-refined gold, and is soft and adhesive. It is put up carefully in books, each of which contains the full weight marked upon it. Below we give a few certificates, attesting its good working qualities, and its thorough fitness for even the nicest operations.

RUBENCAME & STOCKTON.

CERTIFICATES.

PHILA., June 21, 1865.

RUBENCAME & STOCKTON—*Gentlemen*—The No. 4 Gold Foil lately procured from you, works well; equal, I think, to any I have used.

Yours, &c., C. N. PEIRCE, 501 N. Seventh St.

PHILA., June 20, 1865.

MESSRS. RUBENCAME & STOCKTON—I have used your Gold Foil since it was first put in the market, and can recommend it as equal, if not superior, to any I have ever used.

T. L. BUCKINGHAM, 243 N. Ninth Street.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—I have used your Gold Foil for months past, and being pleased with its good working qualities, I can have no hesitation in expressing my approbation of it in this way.

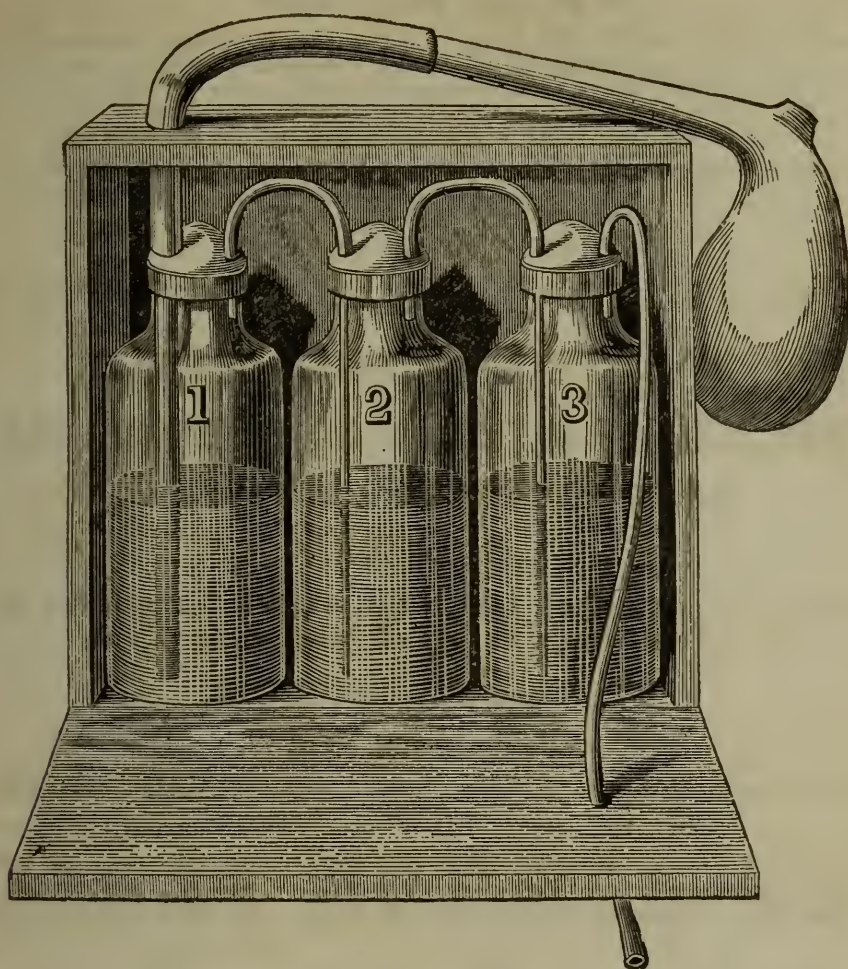
PHILA., June 26, 1865.

C. E. HOPKINS, 1115 Walnut Street.

PHILA., June 27, 1865.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—In response to your inquiry as to my opinion of your Gold Foil, I take pleasure in stating that after a trial of most of the prominent Foils in the market, I now give yours a decided preference. All that I have obtained has possessed the following prominent qualities, adhesiveness, ductility and uniformity, the last being a quality which few gold foils can claim. Yours, truly, GEORGE T. BARKER, 1111 Arch St.

RUBENCAME & STOCKTON.



The above cut represents DR. MOSELEY'S NITROUS OXIDE GAS GENERATOR, with Retort in position on top, and one side let down so as to show the inside fixtures.

This is the most COMPACT, EFFICIENT and ECONOMICAL Apparatus ever offered to the dental profession. The Gas is thoroughly washed by being forced through the chemical baths, and is ready for immediate use. Twenty minutes will suffice to make enough for one operation.

The size of the Generator is sixteen inches long, four inches wide, and fourteen inches deep, and the weight about ten pounds.

THE PRICE HAS BEEN SO REDUCED, that we can now furnish the Apparatus complete, (including the Generator, Retort, Inhaling Bag, (7 gall.,) Rubber Mouth-piece, and two sets of Chemicals,) for *twenty-five dollars*. Boxing, extra, one dollar and fifty cents.

LIST OF PRICES.

| | |
|-----------------------------------------------------|---------|
| Gas Generator, Retort, and two sets Chemicals,..... | \$15 00 |
| Inhaling Bag, 5 gallons,..... | 6 75 |
| " " 6 " | 7 25 |
| " " 7 " | 7 75 |
| Gasometer, 40 " | 18 00 |
| Retorts, quarts, | 1 00 |
| Rubber Mouth-piece..... | 2 50 |
| Ammonia, Fused, best, per pound..... | 90 |
| " Crystalized, best, per pound,..... | 75 |

RUBENCAME & STOCKTON,

825 ARCH STREET, PHILA.

RUBENCAME & STOCKTON.

TAKE NOTICE.

A short man, with red hair, red whiskers, and scar on one cheek, is traveling through the country, and offering teeth for sale, which he represents as of our make. He claims also to be an agent for a new vulcanite base, and talks glibly. We pronounce him an impostor, and caution all parties against having any dealings with him.

RUBENCAME & STOCKTON, 825 Arch street, Phila.

INSTRUCTIONS

IN THE

PREPARATION, ADMINISTRATION and PROPERTIES OF NITROUS OXIDE, PROTOXIDE OF NITROGEN OR LAUGHING GAS, FOR DENTAL AND SURGICAL PURPOSES,

BY GEO. T. BARKER, D. D. S.,

Professor of Principles of Dental Surgery and Therapeutics in the
Pennsylvania College of Dental Surgery.

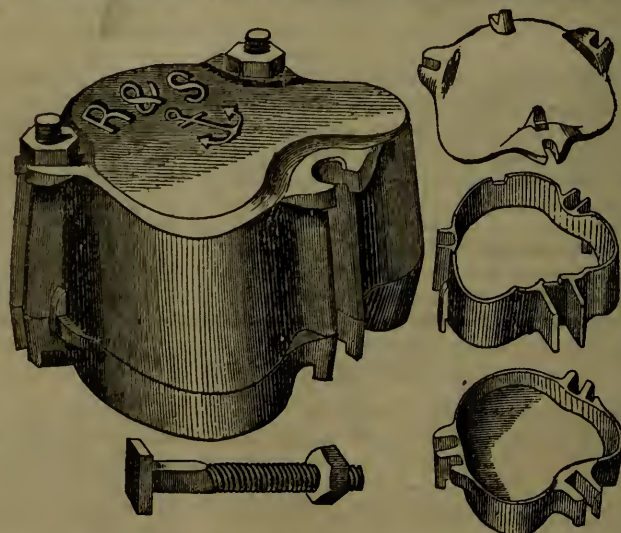
RUBENCAME & STOCKTON,

PHILADELPHIA, 1866.

Will be ready in April.

Price, one dollar.

THE ANCHOR FLASK.



THE LATEST! THE STRONGEST! THE BEST!

| | |
|--------------------------------|--------|
| Price, Brass, each,..... | \$2 00 |
| " Iron, Galvanized, each,..... | 1 50 |
| " " each,..... | 1 25 |
| " Bolt and Nut,..... | 10 |
| " Wrench,..... | 10 |

RUBENCAME & STOCKTON, 825 Arch Street, Phila.

WHITNEY'S IMPROVED VULCANIZERS.



FOR ALCOHOL & GAS



FOR KEROSENE.

From the large advance in the price of all the materials used in the manufacture of vulcanizers—in the labor and government tax—I am compelled to advance the price of my machines enough to cover the increased cost of manufacture.

I have kept along, at the old prices, during the last year and a half, realizing very little profit, hoping that prices would go down, but from the continual advance such cannot be expected.

LIST OF PRICES.

| | |
|-------------------------------------------------------------------|---------|
| Vulcanizers, 2 Flask, Lamp or Gas Burner, complete for use, . . . | \$15 75 |
| “ 3 “ “ “ “ “ . . . | 16 80 |
| Extra, for both Lamp and Gas Burner, | 50 |
| “ Thermometer, Tube and Scale, (by mail 6 cents postage,) . . . | 1 00 |
| “ Flasks of Malleable Iron, | 87½ |
| “ Lamps, | 75 |
| “ Gas Burner, | 75 |
| “ Wrench for Flask, | 10 |
| “ Round Wrench, | 30 |
| “ Straight “ | 25 |
| “ Bolts for Flask, (per set of 3,) | 18 |
| “ Packing, per strip, | 5 |
| Kerosene Stove adapted to this Vulcanizer, | 2 75 |
| When packed for Shipping, box, | 25 |

☞ The Government Tax on these Machines is five per cent., which is added to the above prices.

All orders promptly attended to.

B. T. WHITNEY.

For sale at all Dental Depots.

W. A. DUFF & CO.

MANUFACTURERS OF

**PORCELAIN TEETH,
No. 516 ARCH STREET,
PHILADELPHIA.**

We invite the attention of Dentists and Dealers to our assortment of ARTIFICIAL TEETH, believing them equal to any offered to the profession.

We are prepared to furnish every variety of PLAIN and GUM TEETH for GOLD and SILVER PLATE, and RUBBER OR VULCANITE WORK, including Block and Single Teeth, for Vulcanite, with

PATENT MACHINE-MADE

DOUBLE-HEADED PINS.

These Pins have really two distinct and well-formed heads, one in the tooth, preventing the possibility of their being drawn out, and one for insertion in the Rubber. The upper central blocks have each five pins, and the lower central and side blocks each four; together, Fifty Double-headed Pins in each full set, our machinery enabling us to finish them in this improved manner, in which way they are not made by any other manufacturer.

From the many testimonials received in regard to their STRENGTH, we are led to believe they are

THE STRONGEST TEETH MADE.

WE ARE ALSO PREPARED TO FURNISH

Lathes, Vulcanisers, Chairs, &c. &c.

Also, a neat and complete apparatus for manufacturing

NITROUS OXIDE GAS.

W. A. DUFF,
DR. J. J. GRIFFITH, D. D. S. }

W. A. DUFF & CO.,
516 Arch Street, Phila.

VOL. IV.

OCTOBER, 1866.

NO. 2.

THE
DENTAL TIMES,
A
QUARTERLY JOURNAL
OF
DENTAL SCIENCE.

EDITED AND PUBLISHED BY

DRS. T. L. BUCKINGHAM,
G. T. BARKER,

E. WILDMAN,
W. S. FORBES,

AND
JAMES TRUMAN,

FACULTY

OF THE

Pennsylvania College of Dental Surgery.

PHILADELPHIA.

PRICE \$1.00 A YEAR, IN ADVANCE.

CONTENTS.

COMMUNICATIONS.

| | PAGE |
|----------------------------------------------------------------------------|------|
| On Protection from Moisture in Dental Operations, by Dr. Wm. C. Horne,.... | 49 |
| Iron, by T. L. Buckingham, D. D. S.,..... | 51 |
| Dental Surgery—Should Females Practice It? by Miss L. Jenny Kellogg,.... | 54 |
| What are Dental Colleges? by Edwin T. Darby, D. D. S.,..... | 57 |
| Phenol Sodique—An Addendum, by M. P. Linton, M. D.,..... | 60 |
| The Sixth Annual Session of the American Dental Association,..... | 63 |
| Obituary—Mr. Ashael Jones,..... | 76 |

EDITORIAL.

| | |
|-----------------------------------------|----|
| Tinct. Iodinii,..... | 76 |
| Contribution to the Museum,..... | 76 |
| Snow and Lewis' Automatic Plugger,..... | 77 |
| Caustic Holder, | 77 |

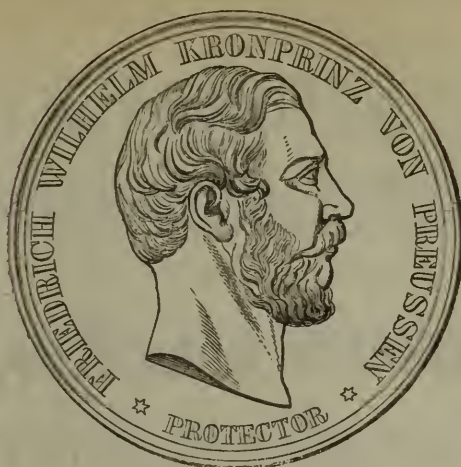
TO THE PROFESSION.

In issuing the "DENTAL TIMES," we desire to make it of interest to the mass of practitioners. To this end we earnestly solicit from our professional friends, communications on any branch of our specialty. To those who hesitate because their limited time incapacitates them for writing long or elaborate articles, we would say, give us the facts and the method, and we will lay them before our readers so that all will understand and many be instructed.

Persons desiring to become subscribers, can do so by remitting the price of subscription, *one dollar per annum*, with name and address, to Dr. T. L. Buckingham, 243 North Ninth street, Philadelphia.

As we desire to keep a corrected list of the dentists in the United States, our friends and subscribers will please notify us when changing their location.

ARTIFICIAL TEETH.



PRIZE MEDAL

AWARDED TO

JOHNSON & LUND,

AT THE

WORLD'S FAIR IN PRUSSIA,
1865,

FOR EXCELLENCE IN THE MANUFACTURE OF ARTIFICIAL TEETH.

The attention of Dentists is called to our late patterns of

BLOCK TEETH FOR RUBBER BASE.

In claiming for them

BEAUTY, NATURAL APPEARANCE & TOUGHNESS,

We are endorsed by all who have given them a trial, as well as by the fact that we have just received a PRIZE MEDAL at the World's Fair in Prussia, for excellence in the manufacture of Artificial Teeth.

Our assortment of Block Teeth for Rubber Base is quite varied.

PRICES.

| | |
|------------------------------------------|-----------|
| Blocks or Sections for Rubber Base,..... | 20 cents. |
| Single Gum Teeth, " " | 20 " |
| " " Plate Work,..... | 20 " |
| Plain Teeth, for Plate Work..... | 10 " |
| " " for Rubber Work,..... | 10 " |
| Pivot Teeth,..... | 8 " |

NOTICE.

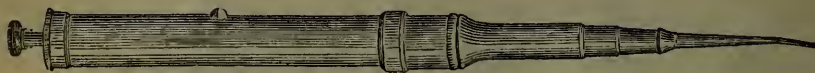
Our Teeth for Rubber Work have DOUBLE-HEADED PINS. These are distinct and well formed. One of them is really inserted in the tooth, the other is at the extremity of the pin, OUTSIDE. We thus secure a firm resistance in the body of the tooth, and ample space for the retention of the rubber around the pin outside. Our customers pronounce them "Excelsior."

A Liberal Discount made to Wholesale Dealers.

JOHNSON & LUND.

PRICE REDUCED.

IMPROVED AUTOMATIC PLUGGER.



One-half size.

SNOW & LEWIS,

No. 278 MAIN STREET, BUFFALO, N. Y.

The attention of the Dental Profession is called to this Instrument with confidence that it will be found the most efficient substitute for the mallet and assistant yet devised.

The instrument has been in use for some time, having been submitted to practical tests by some of the best operators in the country, and in every instance it has met with approbation.

The working parts are simple, and not liable to get out of order. They are contained in a handle of German silver, (silver-plated,) not larger than an ordinary ivory handle. The above cut represents the Plugger, one-half size. The Instrument is operated by pressing the point upon the gold in the cavity in the manner of an ordinary hand plugger; the socket holding the point recedes into the handle a short distance, and a blow is given, which can be varied to any one of four degrees of intensity at the will of the operator. It can be held in any position in the hand, and after a little practice, can be used in more places than a mallet.

PRICES.

We have reduced our price on and after July 1st, as follows:

| | |
|-------------------------------------------------------------|---------|
| Automatic Plugger, | \$10 00 |
| Extra Points, per dozen, | 3 50 |
| Points in the rough, fitted to the socket, per dozen, | 1 50 |

Points of any desired pattern furnished to order. All styles of Atkinson's and Abbot's points constantly on hand. The plugger will be sent by express or mail on receipt of price, otherwise by express, C. O. D., with charges.

For sale by the inventors and manufacturers,

SNOW & LEWIS,

No. 278 MAIN STREET, BUFFALO, N. Y.

HAYES' VULCANIZERS.

LIST OF PRICES.

IRON CLAD OVEN.



IRON CLAD BOILER.



| | |
|--------------------------------------------------------------------------------|---------|
| Iron Clad Oven for one flask, with Kerosene, Alcohol, or Gas Burner,..... | \$15 00 |
| Iron Clad Oven for two flasks, with Kerosene, Alcohol, or Gas Burner,..... | 16 00 |
| Iron Clad Boiler for two flasks, with Kerosene, Alcohol, or Gas Burner,..... | 17 00 |
| Vulcanizing Boiler, of copper, for two cases, including two flasks, &c., | 15 75 |
| Vulcanizing Boiler, of copper, for three cases, including three flasks, | 16 80 |
| Kerosene Heater alone, including Stand for Vulcanizer,.... | 2 50 |
| Thermometer for Vulcanizing Oven or Boiler,..... | 2 00 |
| Thermometer Tube and Scale, for Vulcanizing Oven or Boiler,..... | 1 00 |
| Automatic Burner,..... | 1 50 |
| Alcohol Holder, | 25 |
| Flask for Vulcanizing Oven or Boiler, each,..... | 50 |
| Clamp for Flask,..... | 50 |
| Wrench for Vulcanizing Oven or Boiler,..... | 25 |
| Packing Duster and contents,..... | 25 |
| Extra Packing, each,..... | 10 |
| Extra Gas Fixtures, | 50 |

Orders to insure prompt attention should contain cash. Correct change will be returned with the goods. When not so accompanied, the express charge for collection will invariably be added. Pamphlets sent gratuitously. Address,

GEORGE E. HAYES,

Corner Main and South Division Sts., Buffalo, N. Y.

DR. B. WOOD'S

PLASTIC METALS FOR DENTAL USE

MANUFACTURED BY THE PROPRIETOR, ALBANY, N. Y.

WOOD'S PLASTIC METALLIC FILLING. (Patented March 20, 1860, and September 4, 1864.) Price \$3 an ounce, Troy weight. Put up in 1 oz., $\frac{2}{3}$ oz. and $\frac{1}{3}$ oz., ingots, each stamped with the name of the Patentee and the date of both patents.

WOOD'S AMALGAMATED FILLING.—\$2 an ounce.—It contains a small proportion of mercury, and the ingots are accordingly stamped "AMALGAMATED."

WOOD'S PLASTIC FUSIBLE METAL.—For Mechanical Dentistry.—Repairing Rubber Work—and for Solder, etc.—(Patent March 20, 1860.) \$1.50 per oz.—This is not designed for filling teeth—requiring too high a heat, &c. It is distinguished from the "Filling" by the patent mark.

WOOD'S SILVER AMALGAM.—In filings, \$4 an ounce. It requires less mercury than the ordinary preparations, and is superior in all the other requisites. Sample packages of $\frac{1}{4}$ oz., at \$1.

PLUGGERS FOR USING THE PLASTIC METALLIC FILLING, &c.—In sets of 8 or 12, steel handles, at \$3 and \$4.50 a set, respectively. Each instrument is stamped—"WOOD'S PATENT, FEB. 28, 1865," any offered for sale that are not so stamped are infringements.

All letters should enclose stamps for return postage.

ADDRESS

B. WOOD, M. D., Dentist,

ALBANY, N. Y.

HORATIO G. KERN,

MANUFACTURER OF

SURGICAL & DENTAL INSTRUMENTS, FILES, &C.

The subscriber would again remind the profession that he still continues to manufacture all kinds of INSTRUMENTS, DENTAL FILES, &C.

From the flattering testimonials he has received, (of which a few are appended,) of the superior quality of his Instruments and Files, he feels confidence in his ability to produce an article fully equal to any made.

Assiduous attention to the details of the business, (with an experience of thirty years,) has enabled him to make many improvements in the *adaptation* to the specific purpose; and, as the success of an operation depends, in some degree, on the adaptation of the instruments to the particular character of the operation, it needs no argument to convince those wishing to procure instruments, of the importance of purchasing the manufacture of those of long and well established reputation. Any orders tendered him will be promptly attended to. Illustrated catalogues will be furnished on application.

HORATIO G. KERN,

No. 25 North Sixth Street, Philadelphia.

TESTIMONIALS.

501 NORTH SEVENTH STREET, Philadelphia, June 8th, 1863.

H. G. KERN—*Dear Sir*—The excavators which you handed me some days since I have had in constant use, and take great pleasure in stating that I believe them to be a superior article, both in their ability to retain a sharp cutting edge, and withstand the force essential to the operation.

Yours, &c.

C. N. PEIRCE, D. D. S.

MR. H. G. KERN—*Dear Sir*—The excavators recently manufactured by you have been used with the utmost satisfaction. I can give them an unqualified recommendation. Yours, respectfully,

June 26th, 1863.

GEO. T. BARKER, D. D. S.

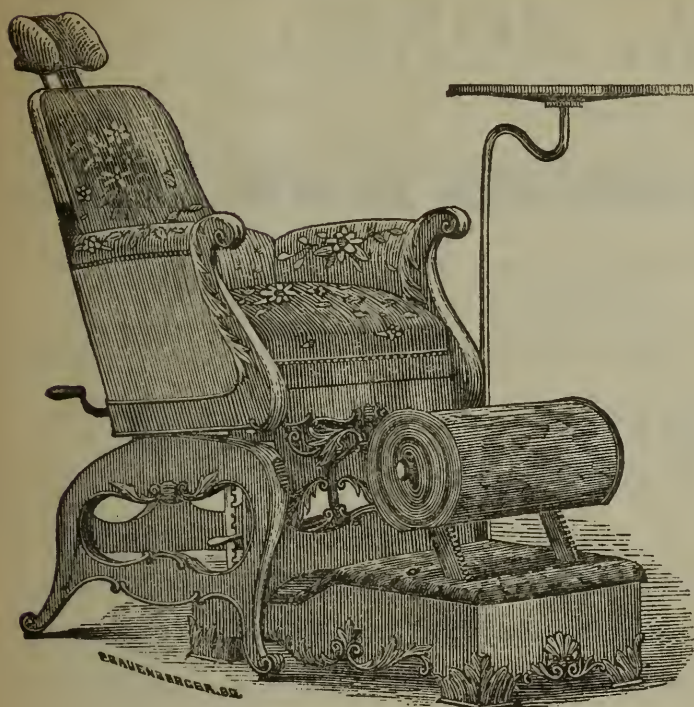
MR. H. G. KERN—*Dear Sir*—The last excavators obtained from you are of a very superior quality. I can recommend them as being equal to any I have ever used.

T. L. BUCKINGHAM, D. D. S.

June 25h, 1863.

R. W. ARCHER'S IMPROVED DENTAL CHAIR.

Patented September 4, 1860.



This Dental Operating Chair is fast coming into universal use. It is the most *convenient*, the most *durable*, and the cheapest Chair in use. For complete description and list of prices, send for catalogue to

R. W. ARCHER, Rochester, N. Y.
Sold at all the principal Dental Depots in this country.

CHARLES ABBEY & SONS,
MANUFACTURERS OF
DENTISTS' FINE GOLD AND TIN FOIL,
NOS. 228 & 230 PEAR STREET,
PHILADELPHIA.

The attention of Dentists is invited to our **FINE GOLD FOIL**, which is prepared under our constant personal supervision. Our Nos. are 4, 5, 6, 8 and 10.

We are also manufacturing an **ADHESIVE FINE GOLD FOIL**, Nos. 4, 5 and 6.

ALL our Gold Foil is manufactured from **ABSOLUTELY PURE GOLD**, prepared expressly for the purpose, with great care, by ourselves.

DENTISTS' REFINED TIN FOIL 'CONSTANTLY ON HAND.

Address

CHARLES ABBEY & SONS,

Philadelphia

A. JONES,
No. 724 BROADWAY, N. Y.,

WHILE THANKING THE
DENTAL PROFESSION

For the very liberal patronage they have extended to him for the last twenty-five years, begs leave to say, that he still continues his business as usual at the above number, where may be found

All Articles in the Dental Line,

Of his own, and other manufacturers, of the most

SUPERIOR QUALITY,

AND

At the Most Favorable Prices.

All orders from abroad will be punctually and thoroughly attended to

JOHN KLEIN

REMOVED

TO THE S. W. CORNER OF TENTH & ARCH STS.

PHILADELPHIA, PENNA.,

WHERE HE HAS OPENED A LARGE

DENTAL DEPOT AND MANUFACTORY,

For the Sale of the Latest Improved Teeth,

FOR ALL KINDS OF RUBBER AND PLATE WORK,

WITH DOUBLE HEADED PINS.

Together with a large assortment of all kinds of Dental Instruments, and other articles needed by the profession.

All orders promptly filled. Also on hand, lots of Flaming Testimonials, as regards the quality of my Porcelain Teeth, from some of the best Dentists in the profession.

NEALL, McCURDY & NEALL,

SUCCESSORS TO

SAMUEL W. NEALL,

MANUFACTURERS OF PORCELAIN TEETH

AND

DENTISTS' MATERIALS.

DENTAL DEPOT,

534 Arch St., south-east corner of Sixth,

PHILADELPHIA, PENNA.

LUTHER'S ADAMANTEAN WHITE-FILLING.

This invaluable preparation is now used by, and meets the approbation of intelligent and experienced Dentists in every State in the Union as being the only Self-hardening filling known that will retain its integrity and metallic color, without turning black and discoloring the teeth, and as being in all respects unequalled as a substitute for Gold, in cases where the latter is inadmissible, on account either of the great extent of the decay, the extreme tenderness of the tooth, the difficulty of access to the cavity, or from motives of economy.

| | | | | |
|-----------------------------------|---|---|---|---------------|
| Packages containing 1 oz., | - | - | - | \$3.00 |
| Do. do. 6 dwts., | - | - | - | 1.00 |

Sent, post paid, on receipt of money. For Circular enclose return postage. Address

H. GILES LUTHER, Dentist,
84 East Twenty-second Street.
NEW YORK.

ROBERTS' OS-ARTIFICIAL

A substitute for AMALGAM in filling badly decayed teeth; and used for resetting PIVOT TEETH in badly decayed roots; also for filling over SENSITIVE DENTINE to destroy sensibility, and as a non-conductor of heat, and for many other DENTAL PURPOSES.

For sale by all dealers in *Dental Materials* and by the undersigned.

One-fourth ounce packages, with directions, sent by mail free of postage, on receipt of \$1.

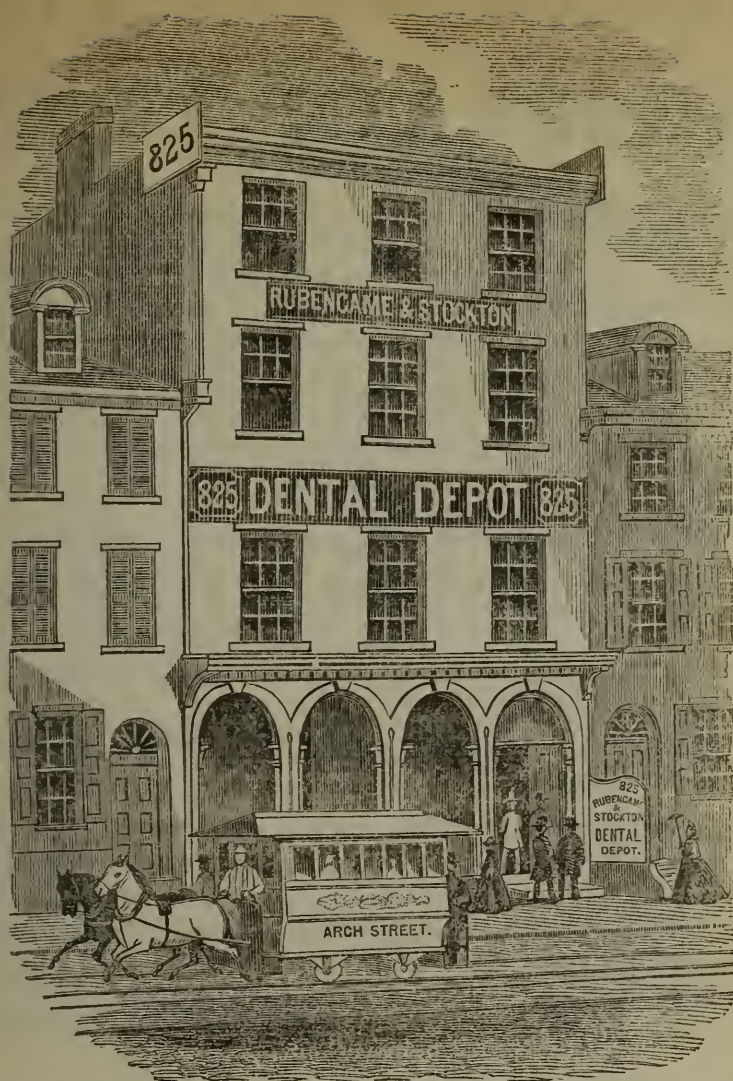
C. H. ROBERTS, M. D.,
POUGHKEEPSIE, N. Y.

BLOCK TEETH AND VULCANITE.

I would respectfully inform the DENTAL PROFESSION that my Laboratory has been REMOVED TO 100 NORTH TENTH STREET, where, after having made considerable improvements in my style of carving and enamels, with assistants also, I am now enabled to execute all orders with promptness and despatch.

Dentists wishing to try Vulcanite Base, can have a few cases made at a reduced price.

WM. R HALL,
100 North Tenth Street, Philadelphia.



RUBENCAME & STOCKTON, DENTAL DEPOT.

825 ARCH STREET

PHILADELPHIA, PA.

Manufacturers of PORCELAIN TEETH, GOLD AND TIN FOILS.

Dealers in every variety of INSTRUMENTS AND MATERIALS required by the Dentist. All orders carefully and promptly filled. Write plainly, giving name and residence in full, and address

RUBENCAME & STOCKTON, 825 Arch Street, Phila.

CARD.

The undersigned having connected himself with Messrs. RUBENCAME & STOCKTON, as a Special Partner, in the manufacture of Porcelain Teeth, Dental Material, etc., is desirous of renewing the business intercourse with the Dental Profession, which ill-health compelled him to suspend some years since.

He pledges himself that nothing shall be wanting on his part to make these renewed relations as pleasant and as satisfactory as those heretofore maintained.

Respectfully,

JOHN R. McCURDY.

RUBENCAME & STOCKTON.

PORCELAIN TEETH.

Our teeth continue to give the utmost satisfaction to all who use them. The many improvements we are introducing in styles and shades are gaining for us new friends every day, and from all parts of the country we are in receipt of the highest encomiums. Already it is conceded, by a large proportion of the dental profession, that our make of teeth stand foremost in every particular. Many are the statements which we receive, directly and indirectly, asserting, with emphasis, that they are equal to any, and even superior to most of those offered by other manufacturers.

To any who have not used our teeth, we would say, give us a fair trial. All orders promptly attended to.

Our terms to consumers and dealers are liberal. Address

**RUBENCAME & STOCKTON,
825 ARCH STREET, PHILA.**

GOLD FOIL.

We are prepared to supply the Profession with a very superior quality of our own make of Gold Foil. This Foil is made of double-refined gold, and is soft and adhesive. It is put up carefully in books, each of which contains the full weight marked upon it. Below we give a few certificates, attesting its good working qualities, and its thorough fitness for even the nicest operations.

RUBENCAME & STOCKTON.

CERTIFICATES.

PHILA., June 21, 1865.

RUBENCAME & STOCKTON—*Gentlemen*—The No. 4 Gold Foil lately procured from you, works well; equal, I think, to any I have used.

Yours, &c., C. N. PEIRCE, 501 N. Seventh St.

PHILA., June 20, 1865.

MESSRS. RUBENCAME & STOCKTON—I have used your Gold Foil since it was first put in the market, and can recommend it as equal, if not superior, to any I have ever used.

T. L. BUCKINGHAM, 243 N. Ninth Street.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—I have used your Gold Foil for months past, and being pleased with its good working qualities, I can have no hesitation in expressing my approbation of it in this way.

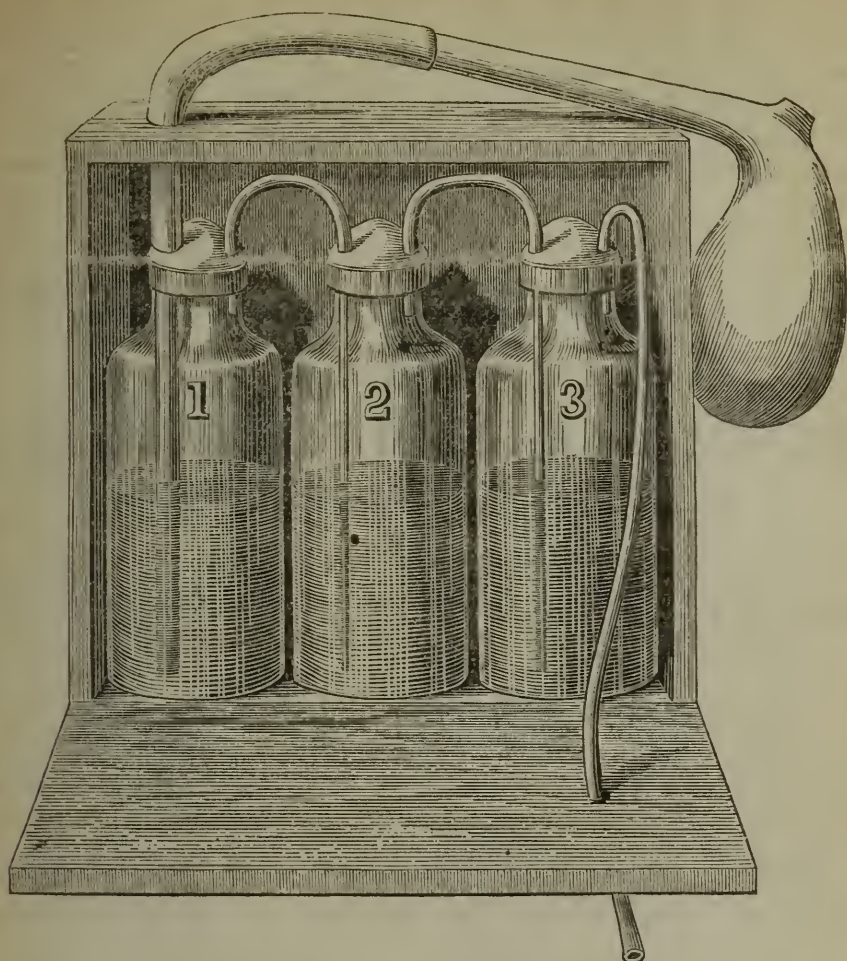
PHILA., June 26, 1865.

C. E. HOPKINS, 1115 Walnut Street.

PHILA., June 27, 1865.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—In response to your inquiry as to my opinion of your Gold Foil, I take pleasure in stating that after a trial of most of the prominent Foils in the market, I now give yours a decided preference. All that I have obtained has possessed the following prominent qualities, adhesiveness, ductility and uniformity, the last being a quality which few gold foils can claim. Yours, truly, GEORGE T. BARKER, 1111 Arch St.

RUBENCAME & STOCKTON.



The above cut represents DR. MOSELEY'S NITROUS OXIDE GAS GENERATOR, with Retort in position on top, and one side let down so as to show the inside fixtures.

This is the most COMPACT, EFFICIENT and ECONOMICAL Apparatus ever offered to the dental profession. The Gas is thoroughly washed by being forced through the chemical baths, and is ready for immediate use. Twenty minutes will suffice to make enough for one operation.

The size of the Generator is sixteen inches long, four inches wide, and fourteen inches deep, and the weight about ten pounds.

THE PRICE HAS BEEN SO REDUCED, that we can now furnish the Apparatus complete, (including the Generator, Retort, Inhaling Bag, (7 gall.,) Rubber Mouth-piece, and two sets of Chemicals,) for *twenty-five dollars*. Boxing, extra, one dollar and fifty cents.

LIST OF PRICES.

| | |
|-----------------------------------------------------|---------|
| Gas Generator, Retort, and two sets Chemicals,..... | \$15 00 |
| Inhaling Bag, 5 gallons,..... | 6 75 |
| " " 6 " | 7 25 |
| " " 7 " | 7 75 |
| Gasometer, 40 " | 18 00 |
| Retorts, quarts,..... | 1 00 |
| Rubber Mouth-piece,..... | 2 50 |
| Ammonia, Fused, best, per pound..... | 90 |
| " Crystalized, best, per pound,..... | 75 |

RUBENCAME & STOCKTON,

825 ARCH STREET, PHILA.

RUBENCAME & STOCKTON.

TAKE NOTICE.

A short man, with red hair, red whiskers, and scar on one cheek, is traveling through the country, and offering teeth for sale, which he represents as of our make. He claims also to be an agent for a new vulcanite base, and talks glibly. We pronounce him an impostor, and caution all parties against having any dealings with him.

RUBENCAME & STOCKTON, 825 Arch street. Phila.

INSTRUCTIONS

IN THE

PREPARATION, ADMINISTRATION and PROPERTIES OF NITROUS OXIDE, PROTOXIDE OF NITROGEN OR LAUGHING GAS, FOR DENTAL AND SURGICAL PURPOSES,

BY GEO. T. BARKER, D. D. S.,

Professor of Principles of Dental Surgery and Therapeutics in the
Pennsylvania College of Dental Surgery.

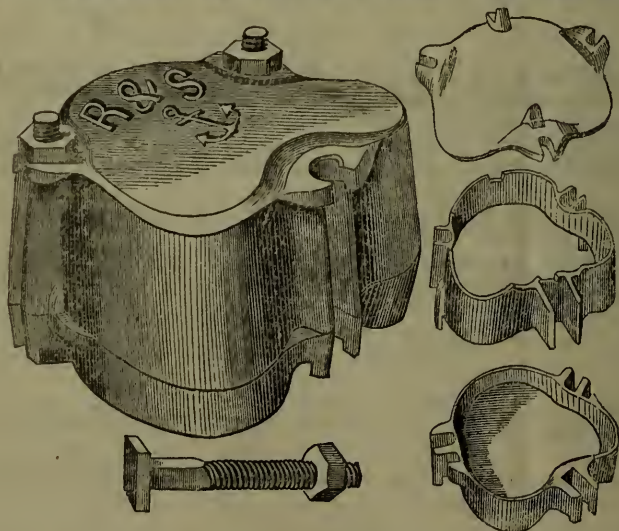
RUBENCAME & STOCKTON,

PHILADELPHIA, 1866.

Will be ready in April.

Price, one dollar.

THE ANCHOR FLASK.



THE LATEST! THE STRONGEST! THE BEST!

| | |
|--------------------------------|--------|
| Price, Brass, each,..... | \$2 00 |
| " Iron, Galvanized, each,..... | 1 50 |
| " " each,..... | 1 25 |
| " Bolt and Nut,..... | 10 |
| " Wrench,..... | 10 |

RUBENCAME & STOCKTON, 825 Arch Street, Phila.

W H I T N E Y ' S IMPROVED VULCANIZER.

LIST OF PRICES.

FOR ALCOHOL & GAS



FOR KEROSENE.



| | |
|-----------------------------------------------------------------------------------|---------|
| No. 2, with two flasks, wrenches, &c., complete for use, for alcohol or gas,..... | \$15 75 |
| No. 2, with two flasks, for kerosene,..... | 16 75 |
| No. 3, with three flasks, for alcohol or gas,..... | 16 80 |
| “ “ “ for kerosene,..... | 17 80 |
| Thermometer tube and scale (by mail, postage 6 cents,).. | 1 00 |
| Flasks of malleable iron,..... | 87 |
| Bolts for flasks, 6 cents each, or in sets of 3,..... | 18 |
| Round wrench, malleable iron,..... | 30 |
| Straight “ “ “ | 25 |
| Flask, “ “ “ | 10 |
| Packings, per piece, | 5 |
| Alcohol lamp,..... | 75 |
| Gas burner,..... | 50 |
| Kerosene stove, with jacket to fit vulcanizer, | 2 75 |
| “ “ without jacket,..... | 2 50 |

The kerosene stove is a *good thing*, suited to all vulcanizers.

All orders, *with cash*, promptly attended to.

B. T. WHITNEY,

Buffalo, N. Y.

For sale at all Dental Depots.

JOHN W. MASSEY,

MANUFACTURER OF

MINERAL TEETH

AND DEALER IN

DENTISTS' MATERIALS,

No. 114 North Ninth Street, Philadelphia,

THIRD DOOR ABOVE ARCH STREET.

Having tested the teeth manufactured by J. W. Massey, we respectfully recommend them to the Dental Profession as equal, if not superior, to any now made.

WM. P. HENRY, D. D. S.,

Demonstrator of Mechanical Dentistry, Philadelphia Dental College.

GEORGE BROCKWAY, New York.

GEORGE CHEVELIER, M. D., Boston.

W. A. DUFF & CO.

MANUFACTURERS OF

PORCELAIN TEETH,
No. 516 ARCH STREET,
PHILADELPHIA.

We invite the attention of Dentists and Dealers to our assortment of **ARTIFICIAL TEETH**, believing them equal to any offered to the profession.

We are prepared to furnish every variety of **PLAIN** and **GUM TEETH** for **GOLD** and **SILVER PLATE**, and **RUBBER** or **VULCANITE WORK**, including **Block** and **Single Teeth**, for **Vulcanite**, with

PATENT MACHINE-MADE

DOUBLE-HEADED PINS.

These Pins have really two distinct and well-formed heads, one in the tooth, preventing the possibility of their being drawn out, and one for insertion in the Rubber. The upper central blocks have each five pins, and the lower central and side blocks each four; together, Fifty Double-headed Pins in each full set, our machinery enabling us to finish them in this improved manner, in which way they are not made by any other manufacturer.

From the many testimonials received in regard to their **STRENGTH**, we are led to believe they are

THE STRONGEST TEETH MADE.

WE ARE ALSO PREPARED TO FURNISH

Lathes, Vulcanisers, Chairs, &c. &c.

Also, a neat and complete apparatus for manufacturing

NITROUS OXIDE GAS.

W. A. DUFF,
DR. J. J. GRIFFITH, D. D. S. }

W. A. DUFF & CO.,
516 Arch Street, Phila.

VOL. IV.

JANUARY, 1867.

NO. 3.

THE
DENTAL TIMES,
A
QUARTERLY JOURNAL
OF
DENTAL SCIENCE.

EDITED AND PUBLISHED BY

DRS. T. L. BUCKINGHAM,
G. T. BARKER,

E. WILDMAN,
W. S. FORBES,

AND
JAMES TRUMAN,

FACULTY

OF THE

Pennsylvania College of Dental Surgery.

PHILADELPHIA.

PRICE \$1.00 A YEAR, IN ADVANCE.

CONTENTS.

COMMUNICATIONS.

| | PAGE |
|----------------------------------------------------------------------|------|
| Aconite as a Dental Therapeutic, by Geo. T. Barker, D. D. S.,..... | 97 |
| Compensation, by A. Lawrence, D. D. S.,..... | 102 |
| Regulating Teeth, by Dr. C. A. Marvin,..... | 105 |
| Sensitive Dentine—Its Cause and Treatment, by Dr. W. C. Horne,..... | 108 |
| Filling Approximal and Cervical Cavities, by Dr. C. E. Francis,..... | 110 |
| Quarterly Notes,..... | 112 |

EDITORIAL.

| | |
|------------------------------------------------|-----|
| The Dental Times,..... | 116 |
| The Dental Profession vs. Rubber Patents,..... | 117 |
| North Carolina Dental Association,..... | 126 |
| Contributions to the Museum,..... | 126 |

TO THE PROFESSION.

In issuing the "DENTAL TIMES," we desire to make it of interest to the mass of practitioners. To this end we earnestly solicit from our professional friends, communications on any branch of our specialty. To those who hesitate because their limited time incapacitates them for writing long or elaborate articles, we would say, give us the facts and the method, and we will lay them before our readers so that all will understand and many be instructed.

Persons desiring to become subscribers, can do so by remitting the price of subscription, *one dollar per annum*, with name and address, to Dr. T. L. Buckingham, 243 North Ninth street, Philadelphia.

As we desire to keep a corrected list of the dentists in the United States, our friends and subscribers will please notify us when changing their location.

ARTIFICIAL TEETH.



PRIZE MEDAL

AWARDED TO

JOHNSON & LUND,

AT THE

**WORLD'S FAIR IN PRUSSIA,
1865,**

FOR EXCELLENCE IN THE MANUFACTURE OF ARTIFICIAL TEETH.

The attention of Dentists is called to our late patterns of

BLOCK TEETH FOR RUBBER BASE.

In claiming for them

BEAUTY, NATURAL APPEARANCE & TOUGHNESS,

We are endorsed by all who have given them a trial, as well as by the fact that we have just received a PRIZE MEDAL at the World's Fair in Prussia, for excellence in the manufacture of Artificial Teeth.

Our assortment of Block Teeth for Rubber Base is quite varied.

PRICES.

| | |
|------------------------------------------|-----------|
| Blocks or Sections for Rubber Base,..... | 20 cents. |
| Single Gum Teeth, " " | 20 " |
| " " Plate Work,..... | 20 " |
| Plain Teeth, for Plate Work..... | 10 " |
| " " for Rubber Work,..... | 10 " |
| Pivot Teeth,..... | 8 " |

NOTICE.

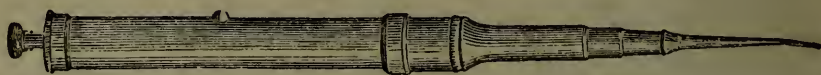
Our Teeth for Rubber Work have DOUBLE-HEADED PINS. These are distinct and well formed. One of them is really inserted in the tooth, the other is at the extremity of the pin, OUTSIDE. We thus secure a firm resistance in the body of the tooth, and ample space for the retention of the rubber around the pin outside. Our customers pronounce them "Excelsior."

A Liberal Discount made to Wholesale Dealers.

JOHNSON & LUND.

SNOW & LEWIS'

IMPROVED AUTOMATIC PLUGGER.



No. 278 MAIN STREET, BUFFALO, N. Y.

This instrument is the most efficient substitute for the mallet and assistant yet devised, enabling the operator to dispense with that great annoyance to the patient, the presence of a third person. It is the first and ORIGINAL Automatic Plugger with the working parts contained in a handle.

The above cut represents the Plugger one half size. The instrument is operated by pressing the point upon the gold in the cavity, in the manner of an ordinary hand plugger; the socket holding the point recedes into the handle a short distance, and a blow is given which can be varied to any one of four degrees of intensity, at the will of the operator.

It is of good workmanship and accurately fitted throughout. The manufacture of the Snow & Lewis Plugger receives the personal supervision of the inventors, and none are offered for sale until fully tested by them. Although not entirely noiseless, the objection has been obviated as far as possible, by a "rubber-faced" hammer.

The time in filling is materially shortened, as the operator is always able to get the blow just when it is required. It can be held in any position in the hand, and after a little practice can be used in more places than the mallet.

THIS PLUGGER CAN BE LOCKED by the ring on the handle, and used as a hand instrument. The above feature is not presented in any other Spring Plugger in market.

PRICES.

| | |
|-------------------------------------------------------------|---------|
| Automatic Plugger, | \$10 00 |
| Points, per dozen, | 3 50 |
| Points in the rough, fitted to the socket, per dozen, | 1 50 |

Points of any desired pattern furnished to order. All styles of Atkinson's and Abbot's points constantly on hand. The plugger will be sent by express or mail on receipt of price, otherwise by express, C. O. D., with return charges.

DENTAL ARTICULATOR.

CAPABLE OF BEING ADJUSTED TO ANY THICKNESS OF CAST.

Price, - - - - \$2 50

SNOW & LEWIS' EXTENSION BRACKET.

Price, - - - - \$12 00

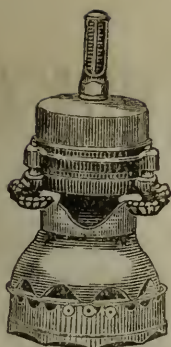
Price, Silver Plated, - - 15 00

For sale by the manufacturers, and at all Dental Depots.

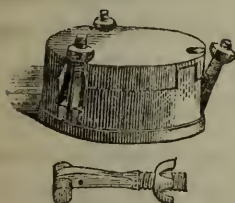
HAYES' VULCANIZERS.

LIST OF PRICES.

IRON CLAD BOILER.



Iron Clad Oven.



| | |
|--------------------------------------------------------------------------------|---------|
| Iron Clad Oven for one flask, with Kerosene, Alcohol, or Gas Burner,..... | \$15 00 |
| Iron Clad Oven for two flasks, with Kerosene, Alcohol, or Gas Burner,..... | 16 00 |
| Iron Clad Boiler for two flasks, with Kerosene, Alcohol, or Gas Burner,..... | 17 00 |
| Iron Clad Boiler for three flasks, with Kerosene, Alcohol, or Gas Burner,..... | 18 00 |
| Vulcanizing Boiler, of copper, for two cases, including two flasks, &c.,..... | 15 75 |
| Vulcanizing Boiler, of copper, for three cases, including three flasks,..... | 16 80 |
| Kerosene Heater alone, including Stand for Vulcanizer,.... | 2 50 |
| Thermometer for Vulcanizing Oven or Boiler,..... | 2 00 |
| Thermometer Tube and Scale, for Vulcanizing Oven or Boiler,..... | 1 00 |
| Automatic Burner,..... | 1 50 |
| Alcohol Holder,..... | 25 |
| Flask for Vulcanizing Oven or Boiler, each,..... | 50 |
| Clamp for Flask,..... | 50 |
| Wrench for Vulcanizing Oven or Boiler,..... | 25 |
| Packing Duster and contents,..... | 25 |
| Extra Packing, each,..... | 10 |
| Extra Gas Fixtures,..... | 50 |

Orders to insure prompt attention should contain cash. Correct change will be returned with the goods. When not so accompanied, the express charge for collection will invariably be added. Pamphlets sent gratuitously. Address,

HAYES' FLASKS, WITH IMPROVED CLAMPS.—The lug-joint is now so constructed that the strain all comes upon the castings. The pins only serve to keep the lugs in place while not in use. The several parts all being attached together are not liable to get lost or misplaced.

GEORGE E. HAYES,

Cor. Main and South Division Sts., Buffalo, N. Y.

DR. B. WOOD'S PLASTIC METALS FOR DENTAL USE

MANUFACTURED BY THE PROPRIETOR, ALBANY, N. Y.

WOOD'S PLASTIC METALLIC FILLING. (Patented March 20, 1860, and September 4, 1864.) Price \$3 an ounce, Troy weight. Put up in 1 oz., $\frac{2}{3}$ oz. and $\frac{1}{3}$ oz., ingots, each stamped with the name of the Patentee and the date of both patents.

WOOD'S AMALGAMATED FILLING.—\$2 an ounce.—It contains a small proportion of mercury, and the ingots are accordingly stamped "AMALGAMATED."

WOOD'S PLASTIC FUSIBLE METAL.—For Mechanical Dentistry.—Repairing Rubber Work—and for Solder, etc.—(Patent March 20, 1860.) \$1.50 per oz.—This is not designed for filling teeth—requiring too high a heat, &c. It is distinguished from the "Filling" by the patent mark.

WOOD'S SILVER AMALGAM.—In filings, \$4 an ounce. It requires less mercury than the ordinary preparations, and is superior in all the other requisites. Sample packages of $\frac{1}{4}$ oz., at \$1.

PLUGGERS FOR USING THE PLASTIC METALLIC FILLING, &c.—In sets of 8 or 12, steel handles, at \$3 and \$4.50 a set, respectively. Each instrument is stamped—"WOOD'S PATENT, FEB. 28, 1865," any offered for sale that are not so stamped are infringements.

All letters should enclose stamps for return postage.

ADDRESS

B. WOOD, M. D., Dentist,

ALBANY, N. Y.

HORATIO G. KERN,

MANUFACTURER OF

SURGICAL & DENTAL INSTRUMENTS, FILES, &C.

The subscriber would again remind the profession that he still continues to manufacture all kinds of INSTRUMENTS, DENTAL FILES, &C.

From the flattering testimonials he has received, (of which a few are appended,) of the superior quality of his Instruments and Files, he feels confidence in his ability to produce an article fully equal to any made.

Assiduous attention to the details of the business, (with an experience of thirty years,) has enabled him to make many improvements in the *adaptation* to the specific purpose; and, as the success of an operation depends, in some degree, on the adaptation of the instruments to the particular character of the operation, it needs no argument to convince those wishing to procure instruments, of the importance of purchasing the manufacture of those of long and well established reputation. Any orders tendered him will be promptly attended to. Illustrated catalogues will be furnished on application.

HORATIO G. KERN,

No. 25 North Sixth Street, Philadelphia.

TESTIMONIALS.

501 NORTH SEVENTH STREET, *Philadelphia, June 8th, 1863.*

H. G. KERN—*Dear Sir*—The excavators which you handed me some days since I have had in constant use, and take great pleasure in stating that I believe them to be a superior article, both in their ability to retain a sharp cutting edge, and withstand the force essential to the operation.

Yours, &c.

C. N. PEIRCE, D. D. S.

MR. H. G. KERN—*Dear Sir*—The excavators recently manufactured by you have been used with the utmost satisfaction. I can give them an unqualified recommendation. Yours, respectfully,

June 26th, 1863.

GEO. T. BARKER, D. D. S.

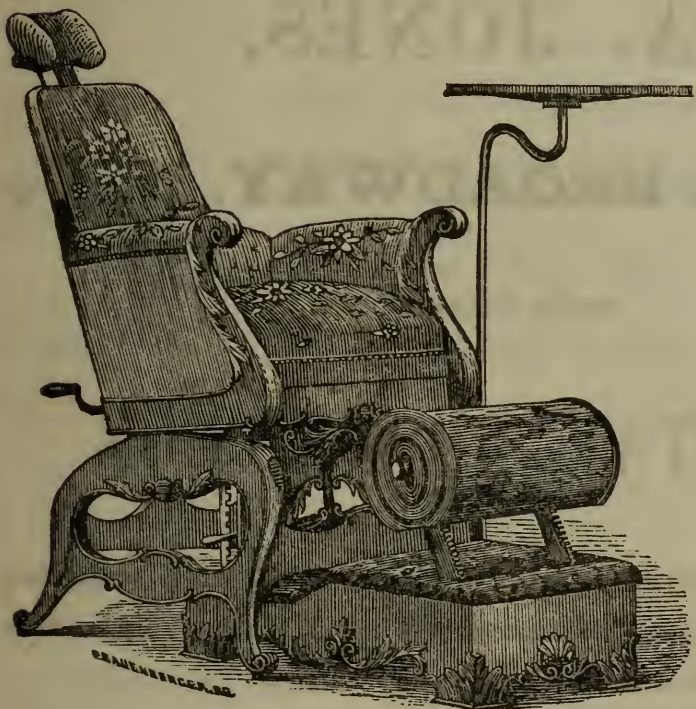
MR. H. G. KERN—*Dear Sir*—The last excavators obtained from you are of a very superior quality. I can recommend them as being equal to any I have ever used.

T. L. BUCKINGHAM, D. D. S.

June 25h, 1863.

R. W. ARCHER'S IMPROVED DENTAL CHAIR.

Patented September 4, 1860.



This Dental Operating Chair is fast coming into universal use. It is the most *convenient*, the most *durable*, and the cheapest Chair in use. For complete description and list of prices, send for catalogue to

R. W. ARCHER, Rochester, N. Y.
Sold at all the principal Dental Depots in this country.

CHARLES ABBEY & SONS,

MANUFACTURERS OF

DENTISTS' FINE GOLD AND TIN FOIL,

NOS. 228 & 230 PEAR STREET,

PHILADELPHIA.

The attention of Dentists is invited to our **FINE GOLD FOIL**, which is prepared under our constant personal supervision. Our Nos. are 4, 5, 6, 8 and 10.

We are also manufacturing an **ADHESIVE FINE GOLD FOIL**, Nos. 4, 5 and 6.

ALL our Gold Foil is manufactured from **ABSOLUTELY PURE GOLD**, prepared expressly for the purpose, with great care, by ourselves.

DENTISTS' REFINED TIN FOIL CONSTANTLY ON HAND.

Address

CHARLES ABBEY & SONS,

Philadelphia

A. JONES,
No. 724 BROADWAY, N. Y.,

WHILE THANKING THE
DENTAL PROFESSION

For the very liberal patronage they have extended to him for the last twenty-five years, begs leave to say, that he still continues his business as usual at the above number, where may be found

All Articles in the Dental Line,

Of his own, and other manufacturers, of the most

SUPERIOR QUALITY,

AND

At the Most Favorable Prices.

All orders from abroad will be punctually and thoroughly attended to

JOHN KLEIN

REMOVED

TO THE S. W. CORNER OF TENTH & ARCH STS.

PHILADELPHIA, PENNA.,

WHERE HE HAS OPENED A LARGE

DENTAL DEPOT AND MANUFACTORY,

For the Sale of the Latest Improved Teeth,

FOR ALL KINDS OF RUBBER AND PLATE WORK,

WITH DOUBLE HEADED PINS.

Together with a large assortment of all kinds of Dental Instruments, and other articles needed by the profession.

All orders promptly filled. Also on hand, lots of Flaming Testimonials, as regards the quality of my Porcelain Teeth, from some of the best Dentists in the profession.

NEALL, McCURDY & NEALL,

SUCCESSORS TO

SAMUEL W. NEALL,

MANUFACTURERS OF PORCELAIN TEETH

AND

DENTISTS' MATERIALS.

DENTAL DEPOT,

534 Arch St., south-east corner of Sixth,

PHILADELPHIA, PENNA.

LUTHER'S ADAMANTEAN WHITE-FILLING.

This invaluable preparation is now used by, and meets the approbation of intelligent and experienced Dentists in every State in the Union as being the only Self-hardening filling known that will retain its integrity and metallic color, without turning black and discoloring the teeth, and as being in all respects unequalled as a substitute for Gold, in cases where the latter is inadmissible, on account either of the great extent of the decay, the extreme tenderness of the tooth, the difficulty of access to the cavity, or from motives of economy.

| | | | | |
|-----------------------------------|---|---|---|---------------|
| Packages containing 1 oz., | - | - | - | \$3.00 |
| Do. do. 6 dwts., | - | - | - | 1.00 |

Sent, post paid, on receipt of money. For Circular enclose return postage. Address

H. GILES LUTHER, Dentist,

84 East Twenty-second Street,

NEW YORK.

ROBERTS' OS-ARTIFICIAL

A substitute for AMALGAM in filling badly decayed teeth; and used for resetting PIVOT TEETH in badly decayed roots; also for filling over SENSITIVE DENTINE to destroy sensibility, and as a non-conductor of heat, and for many other DENTAL PURPOSES.

For sale by all dealers in *Dental Materials* and by the undersigned.

One-fourth ounce packages, with directions, sent by mail free of postage, on receipt of \$1.

C. H. ROBERTS, M. D.,

POUGHKEEPSIE, N. Y.

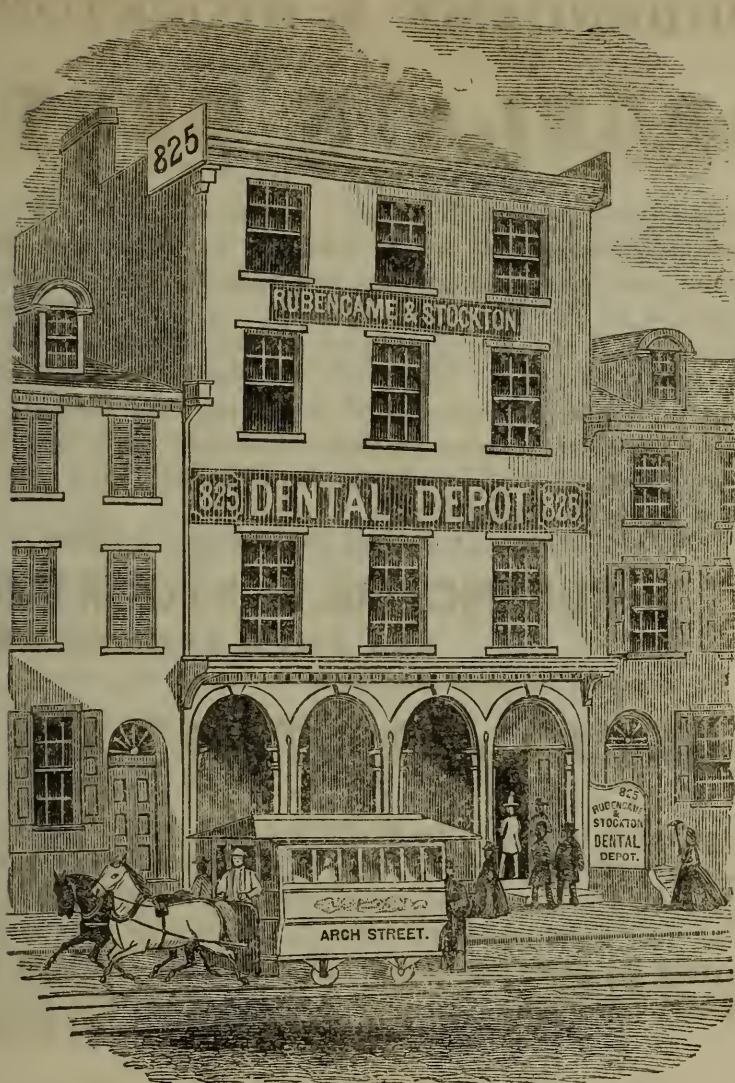
BLOCK TEETH AND VULCANITE.

I would respectfully inform the DENTAL PROFESSION that my Laboratory has been REMOVED TO 100 NORTH TENTH STREET, where, after having made considerable improvements in my style of carving and enamels, with assistants also, I am now enabled to execute all orders with promptness and despatch.

Dentists wishing to try Vulcanite Base, can have a few cases made at a reduced price.

WM. R. HALL,

100 North Tenth Street, Philadelphia.



RUBENCAME & STOCKTON, DENTAL DEPOT.

825 ARCH STREET

PHILADELPHIA, PA.

Manufacturers of PORCELAIN TEETH, GOLD AND TIN FOILS.

Dealers in every variety of INSTRUMENTS AND MATERIALS required by the Dentist. All orders carefully and promptly filled. Write plainly, giving name and residence in full, and address

RUBENCAME & STOCKTON, 825 Arch Street, Phila.

CARD.

The undersigned having connected himself with Messrs. RUBENCAME & STOCKTON, as a Special Partner, in the manufacture of Porcelain Teeth, Dental Material, etc., is desirous of renewing the business intercourse with the Dental Profession, which ill-health compelled him to suspend some years since.

He pledges himself that nothing shall be wanting on his part to make these renewed relations as pleasant and as satisfactory as those heretofore maintained.

Respectfully,

JOHN R. McCURDY.

RUBENCAME & STOCKTON.

PORCELAIN TEETH.

Our teeth continue to give the utmost satisfaction to all who use them. The many improvements we are introducing in styles and shades are gaining for us new friends every day, and from all parts of the country we are in receipt of the highest encomiums. Already it is conceded, by a large proportion of the dental profession, that our make of teeth stand foremost in every particular. Many are the statements which we receive, directly and indirectly, asserting, with emphasis, that they are equal to any, and even superior to most of those offered by other manufacturers.

To any who have not used our teeth, we would say, give us a fair trial. All orders promptly attended to.

Our terms to consumers and dealers are liberal. Address

RUBENCAME & STOCKTON,
825 ARCH STREET, PHILA.

GOLD FOIL.

We are prepared to supply the Profession with a very superior quality of our own make of Gold Foil. This Foil is made of double-refined gold, and is soft and adhesive. It is put up carefully in books, each of which contains the full weight marked upon it. Below we give a few certificates, attesting its good working qualities, and its thorough fitness for even the nicest operations.

RUBENCAME & STOCKTON.

CERTIFICATES.

PHILA., June 21, 1865.

RUBENCAME & STOCKTON—*Gentlemen*—The No. 4 Gold Foil lately procured from you, works well; equal, I think, to any I have used.

Yours, &c., C. N. PEIRCE, 501 N. Seventh St.

PHILA., June 20, 1865.

MESSRS. RUBENCAME & STOCKTON—I have used your Gold Foil since it was first put in the market, and can recommend it as equal, if not superior, to any I have ever used.

T. L. BUCKINGHAM, 243 N. Ninth Street.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—I have used your Gold Foil for months past, and being pleased with its good working qualities, I can have no hesitation in expressing my approbation of it in this way.

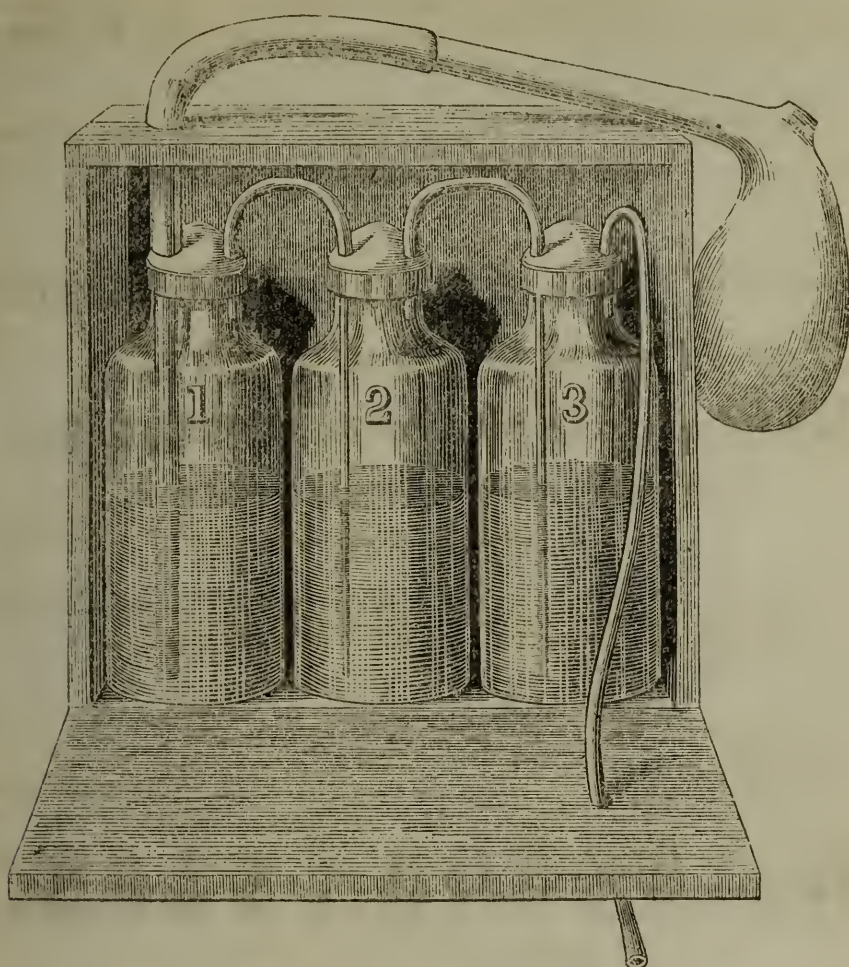
PHILA., June 26, 1865.

C. E. HOPKINS, 1115 Walnut Street.

PHILA., June 27, 1865.

MESSRS. RUBENCAME & STOCKTON—*Gents.*—In response to your inquiry as to my opinion of your Gold Foil, I take pleasure in stating that after a trial of most of the prominent Foils in the market, I now give yours a decided preference. All that I have obtained has possessed the following prominent qualities, adhesiveness, ductility and uniformity, the last being a quality which few gold foils can claim. Yours, truly, GEORGE T. BARKER, 1111 Arch St.

RUBENCAME & STOCKTON.



The above cut represents DR. MOSELEY'S NITROUS OXIDE GAS GENERATOR, with Retort in position on top, and one side let down so as to show the inside fixtures.

This is the most COMPACT, EFFICIENT and ECONOMICAL Apparatus ever offered to the dental profession. The Gas is thoroughly washed by being forced through the chemical baths, and is ready for immediate use. Twenty minutes will suffice to make enough for one operation.

The size of the Generator is sixteen inches long, four inches wide, and fourteen inches deep, and the weight about ten pounds.

THE PRICE HAS BEEN SO REDUCED, that we can now furnish the Apparatus complete, (including the Generator, Retort, Inhaling Bag, (7 gall..) Rubber Mouth-piece, and two sets of Chemicals,) for *twenty-five dollars*. Boxing, extra, one dollar and fifty cents.

LIST OF PRICES.

| | |
|----------------------------------------------------|---------|
| Gas Generator, Retort, and two sets Chemicals..... | \$15 00 |
| Inhaling Bag, 5 gallons..... | 6 75 |
| " " 6 " | 7 25 |
| " " 7 " | 7 75 |
| Gasometer, 40 " | 18 00 |
| Retorts, quarts, | 1 00 |
| Rubber Mouth-piece..... | 2 50 |
| Ammonia, Fused, best, per pound..... | 90 |
| " Crystalized, best, per pound..... | 75 |

RUBENCAME & STOCKTON,

825 ARCH STREET, PHILA.

RUBENCAME & STOCKTON.

TAKE NOTICE.

A short man, with red hair, red whiskers, and scar on one cheek, is traveling through the country, and offering teeth for sale, which he represents as of our make. He claims also to be an agent for a new vulcanite base, and talks glibly. We pronounce him an impostor, and caution all parties against having any dealings with him.

RUBENCAME & STOCKTON, 825 Arch street. Phila.

INSTRUCTIONS

IN THE

PREPARATION, ADMINISTRATION and PROPERTIES OF NITROUS OXIDE, PROTOXIDE OF NITROGEN OR LAUGHING GAS, FOR DENTAL AND SURGICAL PURPOSES,

BY GEO. T. BARKER, D. D. S.,

Professor of Principles of Dental Surgery and Therapeutics in the
Pennsylvania College of Dental Surgery.

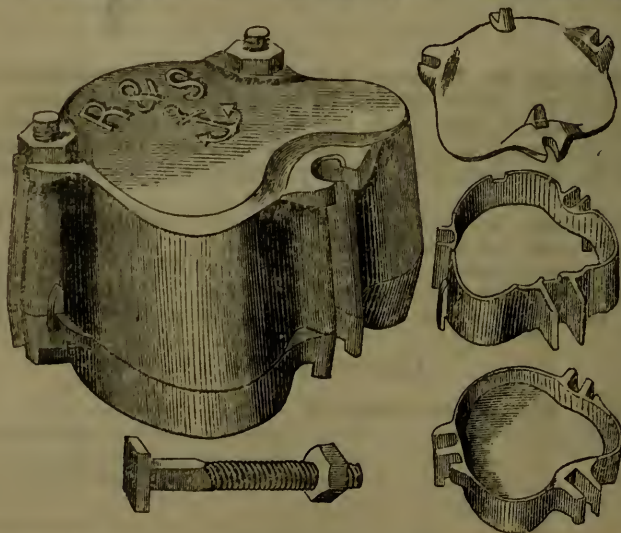
RUBENCAME & STOCKTON,

PHILADELPHIA, 1866.

Will be ready in April.

Price, one dollar.

THE ANCHOR FLASK.



THE LATEST! THE STRONGEST! THE BEST!

| | |
|-------------------------------|--------|
| Price, Brass, each,..... | \$2 00 |
| " Iron, Galvanized, each..... | 1 50 |
| " " each..... | 1 25 |
| " Bolt and Nut..... | 10 |
| " Wrench,..... | 10 |

RUBENCAME & STOCKTON, 825 Arch Street, Phila.

WHITNEY'S IMPROVED VULCANIZER.

LIST OF PRICES.

FOR ALCOHOL & GAS



FOR KEROSENE.



| | |
|-----------------------------------------------------------------------------------|---------|
| No. 2, with two flasks, wrenches, &c., complete for use, for alcohol or gas,..... | \$15 75 |
| No. 2, with two flasks, for kerosene,..... | 16 75 |
| No. 3, with three flasks, for alcohol or gas,..... | 16 80 |
| “ “ “ for kerosene,..... | 17 8 |
| Thermometer tube and scale (by mail, postage 6 cents,).. | 1 00 |
| Flasks of malleable iron,..... | 87 |
| Bolts for flasks, 6 cents each, or in sets of 3,..... | 18 |
| Round wrench, malleable iron,..... | 30 |
| Straight “ “ “ | 25 |
| Flask, “ “ “ | 10 |
| Packings, per piece, | 5 |
| Alcohol lamp,..... | 75 |
| Gas burner,..... | 50 |
| Kerosene stove, with jacket to fit vulcanizer, | 2 75 |
| “ “ without jacket,..... | 2 50 |

The kerosene stove is a *good thing*, suited to all vulcanizers.

All orders, *with cash*, promptly attended to.

B. T. WHITNEY,

For sale at all Dental Depots.

Buffalo, N. Y.

JOHN W. MASSEY,

MANUFACTURER OF

MINERAL TEETH

AND DEALER IN

DENTISTS' MATERIALS,

No. 114 North Ninth Street, Philadelphia,

THIRD DOOR ABOVE ARCH STREET.

Having tested the teeth manufactured by J. W. Massey, we respectfully recommend them to the Dental Profession as equal, if not superior, to any now made.

WM. P. HENRY, D. D. S.,

Demonstrator of Mechanical Dentistry, Philadelphia Dental College.

GEORGE BROCKWAY, New York.

GEORGE CHEVELIER, M. D., Boston.

W. A. DUFF & CO.

MANUFACTURERS OF

PORCELAIN TEETH,
No. 516 ARCH STREET,
PHILADELPHIA.

We invite the attention of Dentists and Dealers to our assortment of **ARTIFICIAL TEETH**, believing them equal to any offered to the profession.

We are prepared to furnish every variety of **PLAIN** and **GUM TEETH** for **GOLD** and **SILVER PLATE**, and **RUBBER** or **VULCANITE WORK**, including **Block** and **Single Teeth**, for **Vulcanite**, with

PATENT MACHINE-MADE

DOUBLE-HEADED PINS.

These Pins have really two distinct and well-formed heads, one in the tooth, preventing the possibility of their being drawn out, and one for insertion in the Rubber. The upper central blocks have each five pins, and the lower central and side blocks each four; together, Fifty Double-headed Pins in each full set, our machinery enabling us to finish them in this improved manner, in which way they are not made by any other manufacturer.

From the many testimonials received in regard to their **STRENGTH**, we are led to believe they are

THE STRONGEST TEETH MADE.

WE ARE ALSO PREPARED TO FURNISH

Lathes, Vulcanisers, Chairs, &c. &c.

Also, a neat and complete apparatus for manufacturing

NITROUS OXIDE GAS.

W. A. DUFF,
DR. J. J. GRIFFITH, D. D. S. }

W. A. DUFF & CO.,
516 Arch Street, Phila.

VOL. IV.

APRIL, 1867.

NO. 4.

THE
DENTAL TIMES,
A
QUARTERLY JOURNAL
OF
DENTAL SCIENCE.

EDITED AND PUBLISHED BY

DRS. T. L. BUCKINGHAM,
G. T. BARKER,

E. WILDMAN,
W. S. FORBES,

AND
JAMES TRUMAN,

FACULTY

OF THE

Pennsylvania College of Dental Surgery.

PHILADELPHIA.

PRICE \$1.00 A YEAR, IN ADVANCE.

CONTENTS.

COMMUNICATIONS.

| | PAGE |
|--------------------------------------------------------------------------------------------------|------|
| On the Articulation and Arrangement of Artificial Teeth, by W. H. Trueman, D. D. S.,..... | 145 |
| Amalgam, by B. Wood, D. D. S.,..... | 149 |
| Quarterly Notes, by Unknown,..... | 153 |
| Regulating Teeth, by C. H. Marvin, D. D. S.,..... | 156 |
| Taking Plaster Impressions without an Impression Cup, by J. F. Leaming, M. D., D. D. S.,..... | 160 |
| Commencement of the Pennsylvania College of Dental Surgery,.... | 161 |

EDITORIAL.

| | |
|-------------------------------------------------|-----|
| The Reason Why,..... | 166 |
| The American Dental Convention,..... | 167 |
| Obituary,..... | 168 |
| Philadelphia Dental Manufacturing Company,..... | 170 |
| Correspondence,..... | 170 |

TO THE PROFESSION.

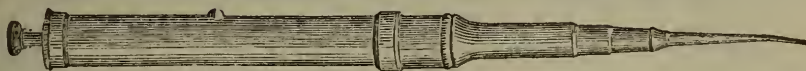
In issuing the "DENTAL TIMES," we desire to make it of interest to the mass of practitioners. To this end we earnestly solicit from our professional friends, communications on any branch of our specialty. To those who hesitate because their limited time incapacitates them for writing long or elaborate articles, we would say, give us the facts and the method, and we will lay them before our readers so that all will understand and many be instructed.

Persons desiring to become subscribers, can do so by remitting the price of subscription, *one dollar per annum*, with name and address, to Dr. T. L. Buckingham, 243 North Ninth street, Philadelphia.

As we desire to keep a corrected list of the dentists in the United States, our friends and subscribers will please notify us when changing their location.

SNOW & LEWIS'

IMPROVED AUTOMATIC PLUGGER.



No. 278 MAIN STREET, BUFFALO, N. Y.

This instrument is the most efficient substitute for the mallet and assistant yet devised, enabling the operator to dispense with that great annoyance to the patient, the presence of a third person. It is the first and ORIGINAL Automatic Plugger with the working parts contained in a handle.

The above cut represents the Plugger one half size. The instrument is operated by pressing the point upon the gold in the cavity, in the manner of an ordinary hand plugger; the socket holding the point recedes into the handle a short distance, and a blow is given which can be varied to any one of four degrees of intensity, at the will of the operator.

It is of good workmanship and accurately fitted throughout. The manufacture of the Snow & Lewis Plugger receives the personal supervision of the inventors, and none are offered for sale until fully tested by them. Although not entirely noiseless, the objection has been obviated as far as possible, by a "rubber-faced" hammer.

The time in filling is materially shortened, as the operator is always able to get the blow just when it is required. It can be held in any position in the hand, and after a little practice can be used in more places than the mallet.

THIS PLUGGER CAN BE LOCKED by the ring on the handle, and used as a hand instrument. The above feature is not presented in any other Spring Plugger in market.

P R I C E S.

| | |
|-------------------------------------------------------------|---------|
| Automatic Plugger, | \$10 00 |
| Points, per dozen, | 3 50 |
| Points in the rough, fitted to the socket, per dozen, | 1 50 |

Points of any desired pattern furnished to order. All styles of Atkinson's and Abbot's points constantly on hand. The plugger will be sent by express or mail on receipt of price, otherwise by express, C. O. D., with return charges.

DENTAL ARTICULATOR.

CAPABLE OF BEING ADJUSTED TO ANY THICKNESS OF CAST.

Price, - - - - \$2 50

SNOW & LEWIS' EXTENSION BRACKET.

Price, - - - - \$12 00

Price, Silver Plated, - - 15 00

For sale by the manufacturers, and at all Dental Depots.

HORATIO G. KERN,

MANUFACTURER OF

SURGICAL & DENTAL INSTRUMENTS, FILES, &C.

The subscriber would again remind the profession that he still continues to manufacture all kinds of INSTRUMENTS, DENTAL FILES, &C.

From the flattering testimonials he has received, (of which a few are appended,) of the superior quality of his Instruments and Files, he feels confidence in his ability to produce an article fully equal to any made.

Assiduous attention to the details of the business, (with an experience of thirty years,) has enabled him to make many improvements in the *adaptation* to the specific purpose; and, as the success of an operation depends, in some degree, on the adaptation of the instruments to the particular character of the operation, it needs no argument to convince those wishing to procure instruments, of the importance of purchasing the manufacture of those of long and well established reputation. Any orders tendered him will be promptly attended to. Illustrated catalogues will be furnished on application.

HORATIO G. KERN,

No. 25 North Sixth Street, Philadelphia.

TESTIMONIALS.

501 NORTH SEVENTH STREET, *Philadelphia, June 8th, 1863.*

H. G. KERN—*Dear Sir*—The excavators which you handed me some days since I have had in constant use, and take great pleasure in stating that I believe them to be a superior article, both in their ability to retain a sharp cutting edge, and withstand the force essential to the operation.

Yours, &c.

C. N. PEIRCE, D. D. S.

MR. H. G. KERN—*Dear Sir*—The excavators recently manufactured by you have been used with the utmost satisfaction. I can give them an unqualified recommendation. Yours, respectfully,

June 26th, 1863.

GEO. T. BARKER, D. D. S.

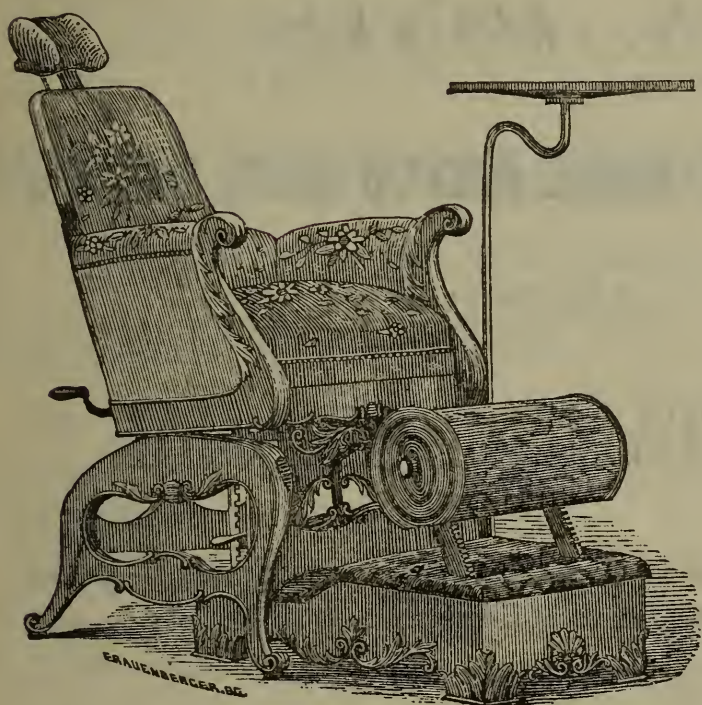
MR. H. G. KERN—*Dear Sir*—The last excavators obtained from you are of a very superior quality. I can recommend them as being equal to any I have ever used.

T. L. BUCKINGHAM, D. D. S.

June 25h, 1863.

R. W. ARCHER'S IMPROVED DENTAL CHAIR.

Patented September 4, 1860.



This Dental Operating Chair is fast coming into universal use. It is the most *convenient*, the most *durable*, and the cheapest Chair in use. For complete description and list of prices, send for catalogue to

R. W. ARCHER, Rochester, N. Y.
Sold at all the principal Dental Depots in this country.

CHARLES ABBEY & SONS,

MANUFACTURERS OF

DENTISTS' FINE GOLD AND TIN FOIL,

NOS. 228 & 230 PEAR STREET,

PHILADELPHIA.

The attention of Dentists is invited to our **FINE GOLD FOIL**, which is prepared under our constant personal supervision. Our Nos. are 4, 5, 6, 8 and 10.

We are also manufacturing an **ADHESIVE FINE GOLD FOIL**, Nos. 4, 5 and 6.

ALL our Gold Foil is manufactured from **ABSOLUTELY PURE GOLD**, prepared expressly for the purpose, with great care, by ourselves.

DENTISTS' REFINED TIN FOIL CONSTANTLY ON HAND.

Address

CHARLES ABBEY & SONS,

Philadelphia

A. JONES,

No. 724 BROADWAY, N. Y.,

WHILE THANKING THE

DENTAL PROFESSION

For the very liberal patronage they have extended to him for the last twenty-five years, begs leave to say, that he still continues his business as usual at the above number, where may be found.

All Articles in the Dental Line,

Of his own, and other manufacturers, of the most

SUPERIOR QUALITY,

AND

At the Most Favorable Prices.

All orders from abroad will be punctually and thoroughly attended to

JOHN KLEIN

REMOVED

TO THE S. W. CORNER OF TENTH & ARCH STS.

PHILADELPHIA, PENNA.,

WHERE HE HAS OPENED A LARGE

DENTAL DEPOT AND MANUFACTORY,

For the Sale of the Latest Improved Teeth,

FOR ALL KINDS OF RUBBER AND PLATE WORK,

WITH DOUBLE HEADED PINS.

Together with a large assortment of all kinds of Dental Instruments, and other articles needed by the profession.

All orders promptly filled. Also on hand, lots of Flaming Testimonials, as regards the quality of my Porcelain Teeth, from some of the best Dentists in the profession.

NEALL, McCURDY & NEALL,

SUCCESSORS TO

SAMUEL W. NEALL,

MANUFACTURERS OF PORCELAIN TEETH

AND

DENTISTS' MATERIALS.

DENTAL DEPOT,

534 Arch St., south-east corner of Sixth,

PHILADELPHIA, PENNA.

LUTHER'S ADAMANTEAN WHITE-FILLING.

This invaluable preparation is now used by, and meets the approbation of intelligent and experienced Dentists in every State in the Union as being the only Self-hardening filling known that will retain its integrity and metallic color, without turning black and discoloring the teeth, and as being in all respects unequalled as a substitute for Gold, in cases where the latter is inadmissible, on account either of the great extent of the decay, the extreme tenderness of the tooth, the difficulty of access to the cavity, or from motives of economy.

| | | | | |
|-----------------------------------|---|---|---|---------------|
| Packages containing 1 oz., | - | - | - | \$3.00 |
| Do. do. 6 dwts , | - | - | - | 1.00 |

Sent, post paid, on receipt of money. For Circular enclose return postage. Address

H. GILES LUTHER, Dentist,

84 East Twenty-second Street.

NEW YORK.

ROBERTS' OS-ARTIFICIAL

A substitute for AMALGAM in filling badly decayed teeth; and used for resetting PIVOT TEETH in badly decayed roots; also for filling over SENSITIVE DENTINE to destroy sensibility, and as a non-conductor of heat, and for many other DENTAL PURPOSES.

For sale by all dealers in *Dental Materials* and by the undersigned.

One-fourth ounce packages, with directions, sent by mail free of postage, on receipt of \$1.

C. H. ROBERTS, M. D.,

POUGHKEEPSIE, N. Y.

BLOCK TEETH AND VULCANITE.

I would respectfully inform the DENTAL PROFESSION that my Laboratory has been REMOVED TO 100 NORTH TENTH STREET, where, after having made considerable improvements in my style of carving and enamels, with assistants also, I am now enabled to execute all orders with promptness and despatch.

Dentists wishing to try Vulcanite Base, can have a few cases made at a reduced price.

WM. R. HALL,

100 North Tenth Street, Philadelphia.

WHITNEY'S IMPROVED VULCANIZER.

LIST OF PRICES.

FOR ALCOHOL & GAS



FOR KEROSENE.



| | |
|-----------------------------------------------------------------------------------|---------|
| No. 2, with two flasks, wrenches, &c., complete for use, for alcohol or gas,..... | \$15 75 |
| No. 2, with two flasks, for kerosene,..... | 16 75 |
| No. 3, with three flasks, for alcohol or gas,..... | 16 80 |
| “ “ “ for kerosene,..... | 17 8 |
| Thermometer tube and scale (by mail, postage 6 cents,).. | 1 00 |
| Flasks of malleable iron,..... | 87 |
| Bolts for flasks, 6 cents each, or in sets of 3,..... | 18 |
| Round wrench, malleable iron,..... | 30 |
| Straight “ “ “ | 25 |
| Flask, “ “ “ | 10 |
| Packings, per piece, | 5 |
| Alcohol lamp,..... | 75 |
| Gas burner,..... | 50 |
| Kerosene stove, with jacket to fit vulcanizer, | 2 75 |
| “ “ without jacket,..... | 2 50 |

The kerosene stove is a *good thing*, suited to all vulcanizers.

All orders, *with cash*, promptly attended to.

B. T. WHITNEY,

For sale at all Dental Depots.

Buffalo, N. Y.

JOHN W. MASSEY,

MANUFACTURER OF

MINERAL TEETH

AND DEALER IN

DENTISTS' MATERIALS,

No. 114 North Ninth Street, Philadelphia,

THIRD DOOR ABOVE ARCH STREET.

Having tested the teeth manufactured by J. W. Massey, we respectfully recommend them to the Dental Profession as equal, if not superior, to any now made.

WM. P. HENRY, D. D. S.,

Demonstrator of Mechanical Dentistry, Philadelphia Dental College.

GEORGE BROCKWAY, New York.

GEORGE CHEVELIER, M. D., Boston.

SPECIAL NOTICE

TO THE

DENTAL PROFESSION.

Having disposed of our entire stock of Dentists' Materials, Moulds, Machinery, &c., to the "**Philadelphia Dental Manufacturing Company**," we respectfully request a transfer of your custom to that establishment.

Being largely interested in the new organization, we will be present to attend to your orders as usual. While having greatly increased facilities, we feel better than ever prepared to meet your wishes, which we will, at all times, endeavor to do to your satisfaction.

With thanks for past favors, we are,

Yours, respectfully,

J. R. RUBENCAME,

T. H. STOCKTON, JR.

Late Rubencame & Stockton.

W. A. DUFF,

J. J. GRIFFITH,

Late W. A. Duff & Co.

PHILADELPHIA, January, 1867.

Having purchased the entire Stock of Dental Goods and Manufacturing facilities of the well known Firms of RUBENCAME & STOCKTON and W. A. DUFF & Co., of this city, we invite the attention of the Profession to our large and varied assortment of Artificial Teeth and Dentists' Materials.

By uniting the large collections of Moulds formerly in the possession of these respective firms, we are enabled to furnish Teeth of Styles, Sizes, Patterns, &c., in variety unequalled by any other establishment.

The best skill and experience of the two firms will be combined to furnish the most beautiful, natural and durable article of Artificial Teeth, and such as, on trial by all known tests, will prove to be the *Strongest Teeth* made.

We are also prepared to furnish Gold and Tin Foil, Gold and Silver Plate, Chairs, Lathes, and the most approved apparatus for making and administering Nitrous Oxide Gas, together with every article required in the Office or Laboratory.

Address :

PHILADELPHIA DENTAL MANUF'G CO.

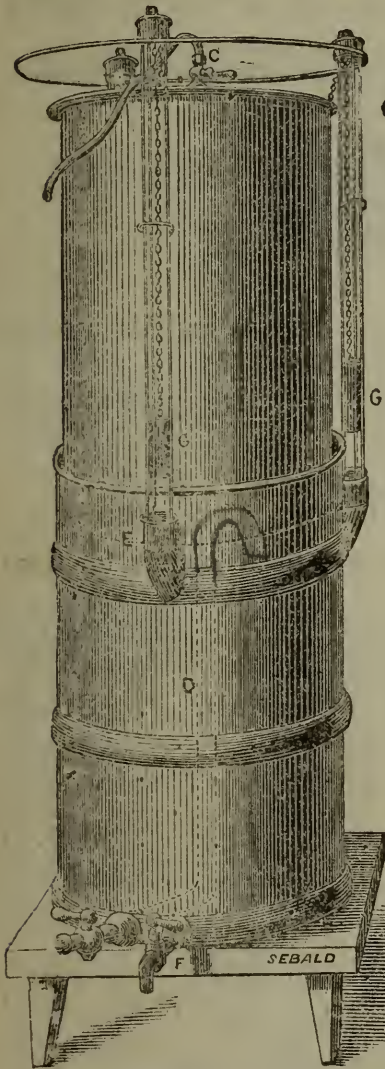
DEPOT, 825 ARCH STREET,

Philadelphia, Pa.

W. A. Duff, President. J. R. Rubencame, Treasurer. T. H. Stockton, Jr., Sec'y.
Dr. J. J. GRIFFITH, Superintendent.

Philadelphia Dental Manufacturing Company.

NITROUS OXIDE.



The annexed cut represents DR. G. T. BARKER'S GASOMETER for NITROUS OXIDE, in which it may be kept on hand any length of time.

Capacity, 40 gallons. Price, \$50.

This being simply a Gasometer, can be used in connection with any Generator.

The illustration below represents our
New and Greatly Improved Apparatus

FOR THE MANUFACTURE OF

NITROUS OXIDE.

It possesses many advantages over any now in use or offered to the profession, being complete and perfect in all its parts, simple in its arrangement, and cannot get out of order.

The jars are fitted up WITHOUT PLASTER OR CEMENT, and the joints so perfect as to prevent the possibility of leakage, to which those constructed differently are so liable.

By means of this Apparatus, the Gas can be made in the shortest possible time, without difficulty, and perfectly free from all deleterious ingredients.

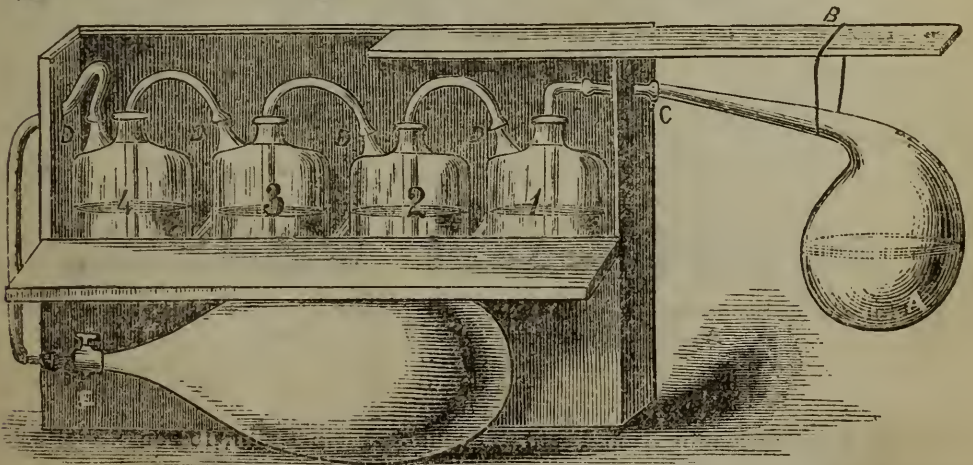
Price, complete as represented, with Four Jars, Retort, Seven-Gallon Inhaling Bag and Rubber Mouth-piece, \$25 00. Mouth-piece, with Valves and Trumpet End, as represented on next page, \$2.75 extra.

Boxing, \$1 00.

This Apparatus can be used with or without the large Gasometer, and when used with it, the Inhaling Bag can be dispensed with by using the Valved Mouth-piece in which case the patient takes the Gas direct from the Gasometer.

Full instructions for making the Gas accompany each Apparatus.

Many of these are now in successful operation and giving entire satisfaction.

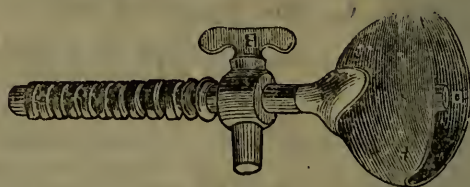


PHILADELPHIA DENTAL MANUFACTURING COMPANY,

825 Arch Street, Philadelphia.

Philadelphia Dental Manufacturing Company.

IMPROVED DOUBLE-VALVE MOUTH-PIECE, WITH DR. BARKER'S FLEXIBLE RUBBER HOOD.



This is considered the *best arrangement for the purpose*, and its use has been ADOPTED BY THE MOST EXPERIENCED OPERATORS.

The Hood covers both mouth and nose, while one valve opens at every inspiration and the other at every exhalation.

| | |
|-----------------------------------|---------|
| Price, with Metallic Trumpet End, | \$4.75. |
| “ Flexible Rubber Hood, | 6.00. |

Having a supply of these, we are now prepared to fill orders for them promptly.

LIST OF PRICES.

| | |
|-----------------------------------------------------------|-------------|
| Gas Generator, including Four Jars, Retort and Chemicals, | \$15.00 |
| Dr. Barker's Gasometer, | 50.00 |
| Inhaling Bag, 5 gallons, | 6.25 |
| “ “ 6 “ | 7.25 |
| “ “ 7 “ | 7.75 |
| Retorts, Tubulated, | 1.00 @ 1.50 |
| “ Plain, | 75 |
| Ammonia, Fused, per lb. | 80 |
| “ “ per 5 lbs. | 3.75 |
| Mouth-piece, Plain, | 2.00 |
| “ with Valves, | 4.00 |
| “ “ and Trumpet End, | 4.75 |
| “ “ and Flexible Hood, | 6.00 |
| Trumpet end, | 75 |
| Flexible Hood, | 2.00 |
| Chemicals, per set, | 50 |
| Glass Jars, complete, for Generator, each, | 3.00 |

PORCELAIN TEETH.

The following discounts are allowed on bills of Teeth:

Amounting to \$25.00 cash, 10 per cent.

| | | | | | | |
|---|---|--------|---|----|---|---|
| “ | “ | 50.00 | “ | 15 | “ | “ |
| “ | “ | 75.00 | “ | 20 | “ | “ |
| “ | “ | 100.00 | “ | 25 | “ | “ |

Retail Price for Gum Teeth, 20 cents. Plain Teeth, 10 cents.

PHILADELPHIA DENTAL MANUFACTURING COMPANY,

825 Arch Street, Philadelphia.

INSTRUCTIONS
IN THE
PREPARATION, ADMINISTRATION and PROPERTIES
OF

NITROUS OXIDE,

**PROTOXIDE OF NITROGEN OR LAUGHING GAS,
FOR DENTAL AND SURGICAL PURPOSES,**

BY GEO. T. BARKER, D. D. S.,

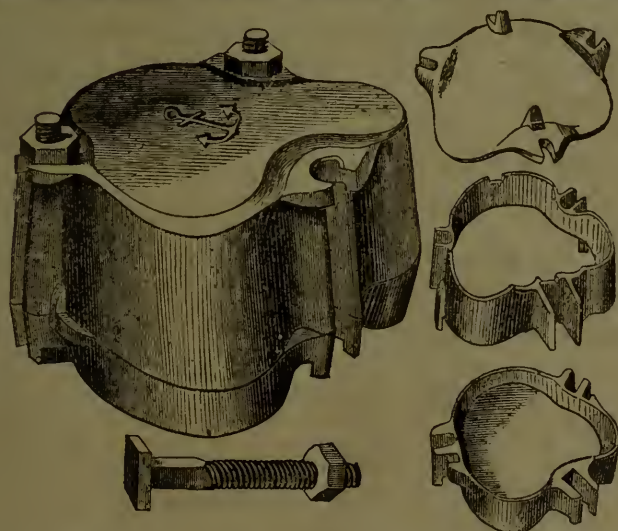
Professor of Principles of Dental Surgery and Therapeutics in the
Pennsylvania College of Dental Surgery.

Philadelphia Dental Manufacturing Company,

PHILADELPHIA, 1867.

Price, one dollar.

THE ANCHOR FLASK.

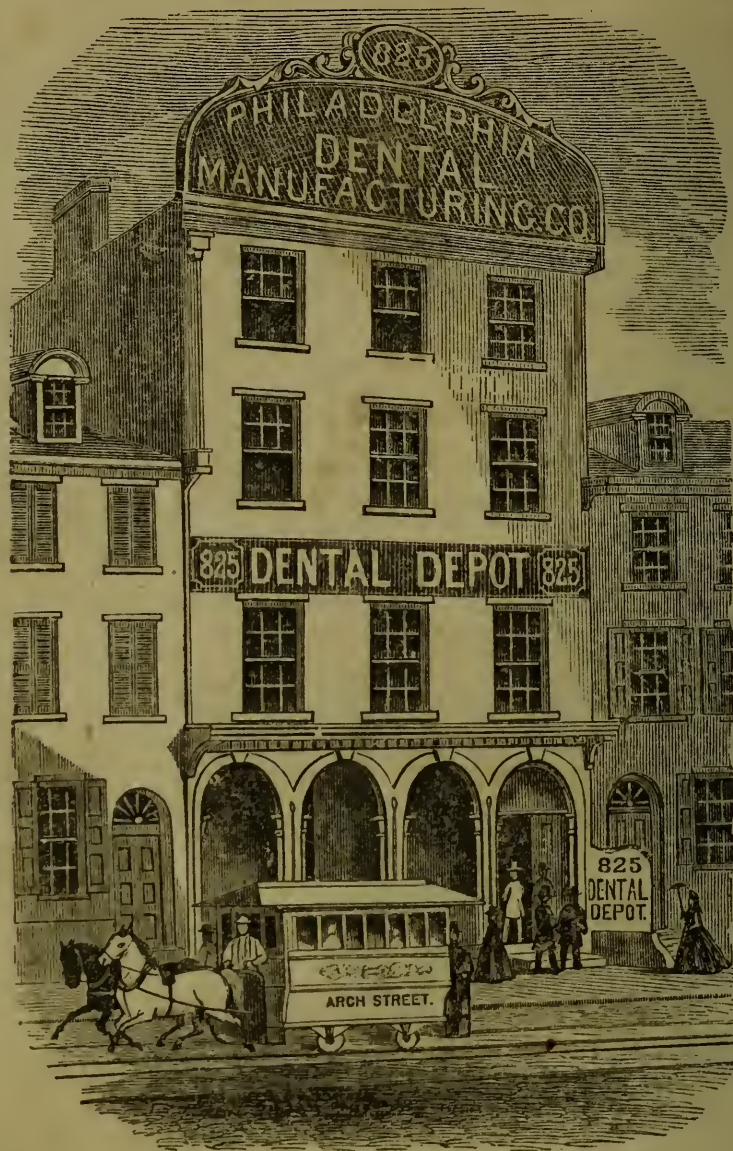


THE LATEST! THE STRONGEST! THE BEST!

We particularly recommend this Flask to your notice, as it has no superior, and is giving entire satisfaction in all respects.

| | |
|---------------------|--------|
| Price, Brass..... | \$2 00 |
| " Iron, Tinned..... | 1 50 |
| " "..... | 1 25 |
| " Bolt and Nut..... | 10 |
| " Wrench..... | 10 |

**PHILADELPHIA DENTAL MANUFACTURING COMPANY,
No. 825 ARCH STREET,
PHILADELPHIA, PA.**



Philadelphia Dental Manufacturing Co.
DEPOT, 825 ARCH STREET,
PHILADELPHIA, PA.

SUCCESSORS TO

RUBENCAME & STOCKTON and W. A. DUFF & CO.,
 MANUFACTURERS OF

PORCELAIN TEETH, GOLD AND TIN FOIL,

Dealers in every variety of INSTRUMENTS and MATERIALS required by the Dentist. All orders carefully and promptly filled. Write plainly, giving name and residence in full, and address as above.

W. A. DUFF, President.

T. H. STOCKTON, Jr., Secretary.

J. R. RUBENCAME, Treasurer.

Dr. J. J. GRIFFITH, Superintendent.



3 2044 103 044 236

